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The Effect of Repeated Textual Encounters and Pictorial Glosses upon Acquiring Additional Word Senses

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THE EFFECT OF REPEATED TEXTUAL ENCOUNTERS AND PICTORIAL GLOSSES UPON ACQUIRING ADDITIONAL WORD SENSES

by

Michael S. Hilmo

A thesis submitted to the faculty of

Brigham Young University

in partial fulfillment of the requirements for the degree of

Master of Arts

Center for Language Studies

Brigham Young University

April 2006
of a thesis submitted by

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This thesis has been read by each member of the following graduate committee and by majority vote has been found to be satisfactory.

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As chair of the candidate’s graduate committee, I have read the thesis of Michael S. Hilmo in its final form and have found that (1) its format, citations, and bibliographical style are consistent and acceptable and fulfill university and department style requirements; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the graduate committee and is ready for submission to the university library.

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ABSTRACT

THE EFFECT OF REPEATED TEXTUAL ENCOUNTERS AND PICTORIAL GLOSSES UPON ACQUIRING ADDITIONAL WORD SENSES

Michael S. Hilmo
Center for Language Studies
Master of Arts

This study investigated the effects of multiple textual encounters of words and textual encounters of words supplemented with pictorial glosses upon the ability of a learner of French to infer additional word senses—senses of target words that were not previously encountered. Twenty-nine participants were randomly divided into two groups, Groups A and B, and were subjected to two treatments, one in which the subjects encountered target words textually twice (Repeated Textual Encounters, RTE) and one in which the subjects encountered target words once textually and once pictorially (Pictorial Encounter, PE).

Before the administration of the two vocabulary-learning treatments the participants completed a vocabulary pretest on the target words to establish a baseline of knowledge. At the conclusion of the vocabulary pretest, Group A read a French fairy tale encountering half of the target words using the RTE treatment
while encountering the other half of the target words using the PE treatment. Although Group B read the same French fairy tale, they did not receive the same treatment for the same words. Specifically, the target words that those in Group A encountered using the RTE treatment were encountered by those in Group B using the PE treatment, and vise versa for the other treatment. Immediately following the treatments the participants completed a vocabulary recall test wherein the participants demonstrated their ability to infer additional senses of the target words in addition to recall original senses of target words as encountered in the text. Vocabulary gains were used as data to determine the participants’ ability to infer additional word senses and recall original word senses.

Results from \( t \) tests indicate that both treatments have a significant impact upon the learner’s ability to infer additional word senses as well as recall original senses. Furthermore, results from analysis on the data gathered for individual words show that the treatments had a significant effect on learners inferring and recalling the senses of certain words over others. Results did not determine, however, which treatment was more effective than the other for learners to infer additional senses of words or to recall original word senses.
ACKNOWLEDGMENTS

I wish to express my appreciation to my committee for their encouragement and support throughout the thesis process. I would like to especially thank my thesis chair, Dr. Michael Bush, for his continued patience and understanding as he stood on the sidelines coaching me to the end. His unfailing confidence in me bolstered me up in times of blood, sweat, and tears. Furthermore, I wish to express my gratitude to Chantal Thompson for the premier foreign language pedagogical education received from her throughout my graduate program. I feel honored to have been a part of her trainings and French teaching program at Brigham Young University. Her experience and expertise cannot be matched anywhere.

I would like to also offer special thanks to my friend Jeremy Browne, BYU Ph.D. candidate, for the long hours spent designing the database to collect the data for this study, as well as help in conducting the needed statistical analyses and helping me better understand the results afterwards. I am also grateful to my parents for instilling in me the value of commitment. Their emphasis of dedication in the home has driven me to complete this thesis. And finally, I am eternally thankful to my wife and children. Their love and support have made the grueling months throughout my thesis bearable. I love them with all of my heart.
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CHAPTER 1: THE PROBLEM

Introduction

Acquiring a second language is an extremely complicated process, one that is often overwhelming for even the most dedicated language learner. Its complexity is highlighted by the numerous theoretical models of second language acquisition (SLA) that have been produced and the countless empirical studies that have been conducted over the last century. The purpose of these models and related studies has been to elucidate the various aspects of learning a second language (L2), one of the more complex activities in which human beings engage.

As an example of an attempt to explain language learning, Chomsky (1965) revolutionized conventional thinking in this area by formally differentiating competence (i.e., what an individual knows about the language) from performance (i.e., what an individual can do with the language). Yet, Campbell and Wales (1970) maintained that Chomsky’s work did not provide a basis for competence that was adequately delineated. As a result, they referred to Chomsky’s meaning of competence more specifically as grammatical competence (i.e., what a learner knows grammatically about the language), and proposed a new term, communicative competence, which addressed sociolinguistic appropriateness (i.e., what a learner knows about the culture in order to communicate appropriately according to the situation).

Building on this seminal work, other researchers and theorists (Hymes, 1972; Savignon, 1972) restructured the communicative competence model by encompassing both elements of grammatical competence and sociolinguistic appropriateness within the structure of this model. About a decade later, Canale and Swain (1980; Canale, 1983)
added the important communicative elements of discourse competence (i.e., the ability to link thoughts) and strategic competence (i.e., the ability to maintain communication during moments of communicative breakdown) to the existing communicative competence paradigm. In essence, second language researchers and theorists have defined and redefined the communicative competence model in an effort to more clearly describe the characteristics of language acquisition that confront every L2 learner.

All of these components of competence are significantly dependent upon acquiring vocabulary—“the basic building blocks of language” (Read, 2000, p. 1). Vocabulary acquisition has several characteristics that underscore its own complexity. Some of these characteristics are attributed to what it means to “know” a word. For example, Nation (2001) provides a list of several word features that the L2 learner must acquire before knowing a word, such as a word’s form, related grammatical functions, various meanings and typical collocations. Furthermore, all of the elements of the various features of a word are not all acquired at the L2 learner’s first encounter of the word. Stated another way, knowing a word is a process that spans several events, beginning at the first encounter and ending when all of the criteria for knowing a word are met. Illustrating this process, Melka (1997) refers to L2 vocabulary learning as a continuum rather than being an “all-or-nothing proposition” (p. 87). The idea that acquiring all of the elements of every feature of a word necessitates numerous encounters of the word illustrates the arduous process of L2 vocabulary learning.

Despite this complexity, learners have for many years used various methods to acquire new vocabulary in the L2 classroom. Traditionally, they have learned L2 vocabulary by way of L1-L2 translation and memorization. Research has indicated,
however, that there are more effective pedagogical techniques for acquiring the meanings of target words than having learners commit to memory endless lists of vocabulary items (Hulstijn, 1992; Nation, 2001; Smith, Stahl & Neel, 1987).

For example, one effective pedagogical technique, advocated by Nation (2001), employs repetitive encounters of target words that are located in the context of an L2 reading passage. A target word, or item, refers to a word with which the L2 learner has had very few encounters, if any at all. In addition, context is defined as the specific use of a word dependent upon the environment controlled by the word’s collocations. This L2 vocabulary learning approach, hereafter known as the Repetitive Textual Encounter (RTE) technique, is based on the theory that the contextual clues that surround a target word will enable the learner to incrementally acquire the meanings of the target word after each successive appearance of the word (Nation, 2001).

Another effective technique, supported by Hauptman (2000), supplements target items found in the context of an L2 reading passage with pictorial glosses representative of the target items, or hereafter known as the Pictorially Enhanced (PE) technique. Pictorial glosses, or aids, are defined as still images (i.e., drawings or pictures) located in the margin of a reading passage that portray the vocabulary word according to the context in which the word is encountered. The PE technique is based upon the theory that when a learner comes across a target word in a reading passage that is supplemented with a visual representation, learner vocabulary development is enhanced more than is otherwise possible. The efficacy of the PE technique has been confirmed by the work of other researchers (Chun & Plass, 1996; Paivio & Lambert, 1981). The sound theoretical
vocabulary acquisition principles upon which the RTE and PE techniques are established explain how learners are able to successfully acquire new L2 vocabulary.

**Statement of the Problem**

Unfortunately, the findings of research in the area of vocabulary acquisition techniques do not provide any indication as to which of all techniques is more effective for fully acquiring new vocabulary in context. Furthermore, L2 researchers in vocabulary learning (Chun & Plass, 1996; Hulstijn, 1992; Kachroo, 1962; Park, 2000) have typically examined the learner’s ability to demonstrate partial word acquisition by examining the learner’s ability to recall or produce target words only according to the context in which the learner encountered the new words. There is little, if any, research that evaluates the effects of vocabulary learning techniques (e.g., the RTE and PE techniques) upon the L2 learner’s ability to infer additional word meanings—word meanings other than the one represented in the context within which the word is first encountered (Read, 2000).

Additional word meanings as relating to this research are defined as different word senses than the sense of the word offered by the context within which the word is first encountered. For instance, an L2 learner of English could come across the word “ball” in the example sentence, “The boy received a ball for his birthday.” In this happening, the word “ball” represents something that may be received as a birthday gift. Alternatively, “ball” has an additional sense wherein a different word characteristic is emphasized over the word characteristic in the previous example as portrayed in the following sentence, “The boy popped his ball on a nail.” In this context, the word “ball” refers to something that may be popped by a nail.
Most words have various senses and colloquial uses, and understanding them in all their variety dictates only knowing one feature of a word. Stated another way, the more a learner understands the various senses of a word, the more the learner knows that word. Hence, acquiring additional meanings of target words strengthens both breadth and depth of L2 learner vocabulary.

**Significance of the Problem**

Notwithstanding the evidence that a meaning of a word in context can be effectively acquired through textual encounters on the one hand, and pictorial encounters on the other, there are few studies that indicate how an L2 learner’s mind works with respect to vocabulary acquisition. Read (2000) suggests that more empirical research needs to be conducted to evaluate the effect of various pedagogical techniques upon vocabulary acquisition, specifically in relation to the L2 learner’s ability to infer new or additional meanings of target words in context.

Furthermore, the RTE and PE techniques cannot both be employed for the acquisition of every target word. In other words, limited time always constrains the amount and depth of L2 vocabulary learning activities in every language acquisition experience. In essence, instructional designers must decide which of these approaches is more beneficial for learners when designing materials for L2 vocabulary instruction. Given the need for efficiency in education, we must consider the implementation of pedagogical techniques that will allow a learner to more effectively acquire additional meanings of newly encountered target words in L2 reading passages.
Purpose of the Study

The main thrust of the current research was to compare and contrast the effects of the RTE technique and the PE technique upon the ability of an L2 learner of French to acquire additional target word meanings. Specifically, this study explored whether the use of a pictorial gloss was able to reduce the number of required encounters of a target word in order to begin acquiring word senses other than the one represented in the context within which the word was first encountered.

In particular, this study addressed the following questions:

1) What is the effect of repetitive encounters of target words in context upon the L2 learner’s ability to infer additional target word senses as measured by the learner’s performance on an immediate test of vocabulary recall?

2) What is the effect of pictorial glosses that supplement target words in context upon the L2 learner’s ability to infer additional target word senses as measured by the learner’s performance on an immediate test of vocabulary recall?

3) Which vocabulary learning technique (i.e., the RTE or PE technique) has greater effect upon the L2 learner’s ability to infer additional target word senses as measured by the learner’s performance on an immediate test of vocabulary recall? In other words, can a picture instantiate a more robust meaning than text alone or vise versa?

Operational Definitions

Learner performance scores on immediate tests of vocabulary recall were used to determine the learning outcome in this study. These vocabulary recall tests demonstrated
the learner’s ability to recall meanings of the target words that have 1) the same word sense, and 2) a different word sense than the sense offered by the context within which the word was first encountered.

It was assumed that the learning outcome was dependent upon how the learner encounters the word, by either the RTE or PE technique. More specifically, the RTE technique was designed so that target words were encountered twice textually in contexts that were similar in content using the same word sense at each encounter. The PE technique was fashioned so that the target items were encountered once textually and once pictorially in the same context as the one used for the RTE technique treatment. In essence, the target words were only encountered twice, regardless of the vocabulary learning technique treatment. The RTE and PE technique treatments were administered in a Computer Assisted Language Learning (CALL) environment, specifically via the Internet, in order to facilitate the administration of this study.

In addition, the learning outcome may be affected by other variables such as L2 background and perceived L2 learning style preferences. L2 background refers to previous L2 learning experience—more specifically, experience with other romance languages. The perceived L2 learning style preference was evaluated by Joy Reid’s (1984) Perceptual Learning Style Preference Questionnaire (PLSPQ), which evaluates learning style preferences according to six categories: 1) visual, 2) aural, 3) kinesthetic, 4) tactile, 5) group learning, and 6) individual learning.

**Overview of Procedures**

Before commencing the study, the researcher informed students enrolled in the first year, second-semester French course (French 102) at Brigham Young University
(BYU), via the classroom instructors, of the possibility of participating in a French language learning research study in exchange for two cultural activity credits, a BYU French department requirement. The students were concurrently informed of the designated dates, times and locations of the study. As the participants reported to the designated computer labs (CLIPS Lab, 3044 JKHB; Humanities PC Lab, 3065 JKHB), lab assistants assigned the participants to a designated computer. As the participants signed-on the opening web page of the Web-Based (WB) program, the WB program randomly designated the manner in which the target words were presented to the participants, either by the RTE or the PE technique. At the beginning of the research, the participants were informed of this study’s general purpose. Once informed, participant data was collected—such as age, gender, current educational status, L2 background, and perceived L2 learning style preferences—in order to determine the demographics of the subjects participating in this study. Next, the participants were asked to complete a 22-item vocabulary pretest, including the 12 pre-selected target vocabulary items. This pretest required the participants to read a sentence in French lacking one word indicated by a blank. The participants were required to choose, from among six options, the correct French vocabulary word appropriate to the context. This vocabulary pretest was designed to assess L2 learner pre-existing knowledge of the target vocabulary words.

Following the vocabulary pretest, the WB program split the participants into two groups according to the random designation assigned by the WB program. Participants randomly assigned to the first group (Group A) read a text passage wherein one half of the target vocabulary items were encountered using the RTE technique and the other half of the target vocabulary items were encountered employing the PE technique.
Participants were able to access the pictorial glosses in the margin of the text when clicking on the target words with the computer mouse.

Participants randomly assigned to the second group (Group B) read a similar version of the reading passage that Group A read. Group B encountered the same target vocabulary as Group A, but Group B encountered the target words using the opposing vocabulary learning technique presented to Group A. Since the participants in both groups received both vocabulary learning techniques, an altered version of the reading passage facilitated administering the RTE and PE vocabulary learning techniques to Group B. Immediately following, participants in both groups completed a reading comprehension test, followed by a vocabulary recall test. The reading comprehension test was designed to help the participants focus on understanding the reading passage rather than concentrating primarily on learning the target words.

**Assumptions and Limitations**

The current study had several major assumptions and limitations. One of the primary assumptions was that the participants would be able to recall the target words according to the context within which the word was first encountered after only two encounters. While the findings of research in the area of acquiring vocabulary through repetitive encounters of target words support the notion that a learner recalls the meaning of a target word after five or six encounters of the word (Kachroo, 1962; Tinkham, 1993), this same research also maintains that there are learners who recall the meanings of some words after only one or two encounters of the words. These contrasting statistics indicate that there may be some unaccounted learning variables affecting learners while acquiring
the meanings of target vocabulary, which may be due to the amount of rich contextual clues afforded the learner.

One such unaccounted learning variable may be the vocabulary-learning approach employed by the L2 learner. For example, L2 learners enrolled in beginning-level French courses (i.e., French 101, 102 and 201) at BYU are taught, and highly encouraged, to use a non-traditional vocabulary learning approach wherein learners constantly utilize contextual clues in reading passages in order to acquire the meanings of target vocabulary. It was therefore likely that the participants of the current research would recall the meanings of target words after fewer encounters of the target words than those of the subjects in the vocabulary studies by Kachroo (1962) and Tinkham (1993). The researcher implemented a vocabulary recall test that determined the ability of a beginning-level L2 learner of French at BYU to recall the meaning of a target word that was represented in the context within which the word was first encountered.

This research, however, may only be replicable while using participants who have been trained to infer meanings of target words from the contexts of reading passages. Furthermore, the typical L2 classroom environment may not allow replication of these research findings because the L2 classroom environment may not allow the instructor to establish control of the administration of the vocabulary learning techniques. Nevertheless, the findings of the research compared the effects of the RTE and PE vocabulary learning techniques upon the ability of L2 learners to infer additional meanings of target words.

Although this study determined the effects of the RTE and PE vocabulary learning techniques, other vocabulary acquisition techniques such as word glosses or
definitions were not considered. Moreover, when the participants came across a target word that was highlighted, indicating that there was a supplemental pictorial gloss, there were a few participants that did not click the target word as instructed in the pre-reading instructions in order to display the appropriate pictorial gloss. These participants may have felt that the reading passage gave enough contextual clues to understand the main idea of the reading passage, which in turn, could have affected the results of the immediate tests of vocabulary recall. Therefore, the WB program recorded every mouse-click completed during this study in order to account for all of the participants’ actions.

Finally, the different teaching styles among the various French instructors for French 102 at BYU were also considered as another limitation for the current study. For example, some French 102 instructors may have incorporated the use of pictorial aids during classroom vocabulary instruction more than other French 102 instructors. The participants who received more pictorial input for vocabulary learning may have more likely adapted their instructor’s vocabulary learning approach than those participants who did not receive as much pictorial input in class. Since there was no way to measure this variable, it was considered as a limitation for this study.
CHAPTER 2: REVIEW OF THE LITERATURE

Introduction

While the findings of research in the area of vocabulary acquisition are notably clear that there is more than one effective method that a learner may use to learn new words, there is still a significant amount of research lacking on how the mind works in relation to developing L2 vocabulary. For instance, Beheydt (1987) states, “There is a real need now to move...into the domain of semantization of large quantities of words in their natural contexts” (p. 59). Moreover, Read (2000) has emphasized the need to conduct more research in the area of acquiring various meanings of L2 vocabulary encountered in context, highlighting the need to know how language learners infer additional word meanings. This chapter will outline several factors that influence L2 vocabulary acquisition and various methods employed to effectively develop L2 vocabulary.

L2 Vocabulary Acquisition Theory

Developing L2 vocabulary is a complex process that can easily span an entire lifetime. The complexity of learning L2 vocabulary may be largely categorized into three areas: (1) the role of vocabulary in L2 development; (2) what it means to “know” a word; and (3) the number of word encounters required for word acquisition, with each area to be addressed in this section.

The intricacy of acquiring L2 vocabulary is primarily demonstrated by the dual-role that vocabulary plays in L2 development. Initially, vocabulary serves as a foundation upon which all of the components of communicative competence are built. Additionally, vocabulary serves as a ladder allowing L2 learners to reach higher levels of
communicative performance. Demonstrating the dual-role that vocabulary plays in L2 learning, Read (2000) states, “Words are the basic building blocks of language, the units of meaning from which larger structures such as sentences, paragraphs and whole texts are formed” (p. 1). While it is important to understand the contribution this concept makes to vocabulary acquisition theory, this dual-role notion only partially explains the complexity of the overall L2 vocabulary learning process.

Much of the complexity of learning L2 vocabulary rests upon understanding what it means to “know” a word. For example, Nation (2001) delineates vocabulary knowledge by categorizing a word’s features into several areas making the distinction between receptive knowledge and productive knowledge (see Table 1). Nation (2001) defines receptive vocabulary knowledge as the ability to recognize and understand a word in a given context, and productive vocabulary knowledge as the ability to generate an appropriate vocabulary expression retrieved from one’s cognitive structure without any cues in order to express a desired meaning. While summarizing Nation’s (2001) categories of word-knowledge raises the concept of word complexity, the following illustrations more clearly exemplify the concept.

Nation (2001) points out that vocabulary words commonly have various semantic values. For example, he explains that the word “cement” can be categorized as various parts of speech (i.e., noun and verb), in addition to its colloquial connotations (e.g., “We cemented our relationship” p. 69). Supporting this notion, Read (2000) argues that some words are considered homographs—words that have the same word-form but do not share the same common meaning—as opposed to words with varying senses. For example, the word “stone” has one sense where it can denote a lethal object when placed
Table 1

*What is Involved in Knowing a Word*

<table>
<thead>
<tr>
<th>Form</th>
<th>spoken</th>
<th>R What does the word sound like?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>written</td>
<td>P How is the word pronounced?</td>
</tr>
<tr>
<td>word parts</td>
<td>R What does the word look like?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P How is the word written and spelled?</td>
<td></td>
</tr>
<tr>
<td>Meaning</td>
<td>form and meaning</td>
<td>R What meaning does this word form signal?</td>
</tr>
<tr>
<td></td>
<td>P What word form can be used to express this meaning?</td>
<td></td>
</tr>
<tr>
<td>concept and referents</td>
<td>R What is included in the concept?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P What items can the concept refer to?</td>
<td></td>
</tr>
<tr>
<td>associations</td>
<td>R What other words does this make us think of?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P What other words could we use instead of this one?</td>
<td></td>
</tr>
<tr>
<td>Use</td>
<td>grammatical</td>
<td>R In what patterns does the word occur?</td>
</tr>
<tr>
<td>functions</td>
<td></td>
<td>P In what patterns must we use the word?</td>
</tr>
<tr>
<td></td>
<td>collocations</td>
<td>R What words or types or words occur with this one?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P What words or types of words must we use with this one?</td>
</tr>
<tr>
<td>constraints on use (register, frequency, ...)</td>
<td>R Where, when, and how often would we expect to meet this word?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P Where, when, and how often can we use this word?</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* In column 3, R = receptive knowledge, P = productive knowledge. From Nation, 2001, p. 27.
in a sling, but in a marriage setting “stone” can represent something very precious. Illustrating the idea of a homograph, Read (2000) defines the word “bank.”

Bank...has two major meanings: an institution which provides financial services, and the sloping ground beside a river. It also refers to a row of dials or switches, and to the tilting of an aircraft’s wings as it turns. There is no underlying meaning that can usefully link all four of these definitions, so in a real sense we have several distinct word families here (p. 20).

It is no wonder that vocabulary acquisition is so complex, given the numerous word features that must be mastered in order to fully acquire a new word. Indeed, developing vocabulary “involves a great deal more than just memorizing the meaning of a word” (Read, 2000, p. 25).

Word complexity can be understood not only terms of characteristics of words themselves, but also with respect to the amount of time required for an L2 learner to acquire all of a word’s characteristics. Given that one way to think about time to learn is to measure the number of exposures required to acquire words, Ellis (1995) emphasizes that learning vocabulary—as described by Nation—necessitates more than one encounter of a word.

For example, McKeown, Beck, Omanson & Pople (1985) performed a study with 4th grade students in which the researchers wanted to determine the effects of the various types of vocabulary instruction and the frequency of encounters of the new vocabulary upon the breadth and depth of acquiring 24 new vocabulary items. The researchers placed the participants into four groups—three experimental and one control. The experimental groups received various types of training for learning the 24 new vocabulary items: (1)
rich instruction (i.e., exploration of word relationships and applications of the new vocabulary); (2) extended/rich instruction (i.e., the same types of instruction as the rich instruction group in addition to a motivational activity to induce the participants to use the new vocabulary outside of class); and (3) traditional instruction (i.e., word associations). The control group didn’t receive any vocabulary instruction. In addition to the various types of vocabulary instruction, every experimental group encountered 12 of the 24 target words twelve times, and the remaining 12 target words four times, in order to determine the effect of word encounter frequency on vocabulary development.

The researchers then assessed the participants in four different lexical areas: “Accuracy on word knowledge, speed of lexical access, context interpretation, and text comprehension” (McKeown, et al., 1985, p. 527). Overall, the results indicated that the words that were more frequently encountered were more fully acquired than those words that were not as frequently encountered, but the researchers did not seek to determine a particular threshold level for the minimum amount of encounters required to fully acquire the target vocabulary.

In contrast, Kachroo (1962) conducted a study which determined a threshold level for the minimum amount of encounters necessary to acquire target words. The ESL participants were required to read English phrases located in a reader that contained 294 new vocabulary words, with each target word presented in the reader at varying frequencies. After reading the English phrases, the participants were required to translate the target vocabulary items into their L1. The post-test results indicated that most learners needed to encounter any given word between five and seven times before they were able to demonstrate that they had gained recognition knowledge of the target words. The
researchers measured this effect by requiring the participants to indicate the meaning of
the words through word translation or through description of the meanings of the words
using any language.

Tinkham (1993) obtained similar results as for the minimum number of
encounters of target words. In his study 20 subjects listened to 6 paired words, an English
word accompanied by an artificial word invented by the researcher. In order to maintain a
standard of learn-ability for all words, the researcher followed specific phonological
guidelines while creating the artificial words used in the study. After listening to the
paired word meanings (“e.g., Moshee means shirt” p. 375), the subjects performed
several trials, wherein the English word was pronounced and the subjects were required
to give the corresponding artificial word. Once the subjects responded—correctly or
incorrectly—to the English word cue, they heard the correct translation, and then
received the next target word. The subjects received the English words in a random order
for each successive trial. Once the students demonstrated mastery of the meaning of the
artificial words, the test ended. Among the many interesting results obtained in this study,
Tinkham (1993) discovered that the majority of learners must encounter a word at least
five times in order to acquire a word’s meaning.

The results of the vocabulary acquisition studies conducted by Kachroo (1962),
McKeown, et al. (1985), and Tinkham (1993) clearly demonstrate that repetitive
encounters of new vocabulary are necessary to acquire the meaning of a new word.
Nation (2001) delineates three reasons for this conclusion, providing significant
theoretical underpinnings for the current study:
1. There are numerous things to know about a word: its form (spoken, written, and component affixes and stem), its meaning (underlying concept, particular instantiations and associations), and its use (collocations, grammatical patterns and constraints on its use).

2. There are several strands through which knowledge of a word needs to develop: through meeting in meaning focused input, through direct study and teaching, through fluency development activities.

3. Learners seem to be capable of dealing with only a limited amount of information at a time; too much confuses. (p. 82)

Although vocabulary acquisition research indicates that learners require several encounters of a word before word acquisition occurs, we must not underestimate the power of even one encounter, especially one that is encountered in an extremely salient context. Miller and Gildea (1987) reported a study conducted by Susan Carey and Elsa J. Bartlett to investigate how children learn L1 vocabulary. Carey and Bartlett worked with three-year-old children teaching them a nonsense word (i.e., chromium) for the color “olive,” which they had confirmed none of the participants knew. The children used green or brown as a substitute word to describe the color olive. Carey and Bartlett painted two cafeteria trays—one was colored olive and the other one was colored blue. During the experiment they requested for the children to hand them the “chromium” tray, but not the blue one. As the children hesitated, they asked the researchers questions to clarify the request (e.g., “This one?” p. 94). A week after the first exposure to the name of the new color, the researchers returned to ask the children the names of colors, including olive. They couldn’t remember the name “chromium,” but they no longer called it green or
brown either. Miller and Gildea (1987) therefore concluded, “A single exposure was enough to begin a reorganization of their color lexicon” (p. 94). This is especially true for extremely salient contexts that surround the target word.

While a single exposure will in some circumstances suffice, it is clear that as each successive encounter occurs, the learner more fully acquires a new vocabulary item. Illustrating this principle, Stahl (1986) argues that there are three, distinct stages through which L2 learners pass to fully acquire vocabulary items.

1. Association: Learners are able to recognize and associate the meaning of the word with the form of the word.

2. Comprehension: Learners are able to give an appropriate definition of the vocabulary item.

3. Generation: Learners are able to use the vocabulary item in a novel way.

Nation (2001) also emphasizes the importance of these same stages, but calls them Noticing, Retrieving and Generating, respectively.

In summary, understanding the dual-role of vocabulary in language learning, a word’s numerous defining characteristics, the amount of time required for an L2 learner to acquire all of a word’s characteristics, and the several vocabulary processing stages that each L2 learner must develop before knowing a word demonstrate the complexity of vocabulary development. Although learning vocabulary may be an arduous and complicated process, research has indicated that there are factors that may influence vocabulary acquisition.
Factors that Facilitate Vocabulary Acquisition

Illustrating the notion that there are several factors that influence L2 vocabulary learning, Hauptman (2000 has delineated several of these that are related to reading comprehension. Hauptman’s (2000) main argument in his research is that there is a hierarchical order for L2 reading comprehension facilitating factors. These factors (primary and secondary ease factors) are categorized hierarchically according to how each factor contributes to the degree of accessibility of the reading passage for the reader. For example, Hauptman (2000) maintains that background knowledge and text signaling (primary ease factors) are reading comprehension factors that more inherently increase the reading passage accessibility for the reader than do language level difficulty, discourse structure, and text length (secondary ease factors). Therefore, Hauptman argues that L2 learners will be better able to make sense of the L2 reading passage, using primary ease factors than using secondary ease factors.

Furthermore, research indicates a positive relationship between reading comprehension and vocabulary acquisition (Crow, 1986; Krashen, 1993; Nation, 2001; Simonson & Singer, 1992; Stahl & Nagy, 2006). In other words, reading comprehension is dependant upon knowledge of vocabulary, and vocabulary acquisition requires adequate understanding of the text. Therefore, the factors that facilitate reading comprehension also affect the learning of new words in a positive way.

Background Knowledge

Background knowledge—Hauptman’s (2000) first primary ease factor, which is a concept related to schema theory—is an L2 listening and reading comprehension facilitating factor that has been widely supported in the SLA community for several
decades. In schema theory knowledge is described as being organized and stored into a learner’s cognitive structure in such a way that when new information is presented to the learner, the mind recalls other pertinent information to which the new information can be connected and thus interpreted and understood (Rumelhart, 1980). In short, schema theory allows the learner to use pertinent background knowledge and any previously known information to make sense of the new information received in the reading or listening task at hand.

Several researchers and theorists have commented on the necessity of background knowledge in learning in general. For example, Frank Smith (1975) argues that we understand new concepts in terms of the way we presently understand the world around us. He defines comprehension as “relating new experiences to the already known” (Smith, 1975, p. 10). In other words, Smith maintains that learners must use existing knowledge as a scaffold to which they attach new information. Furthermore, Ausubel (1978) asserts that without the relevant background information, the learner doesn’t know where to attach new information in the cognitive structure. Stated another way, without background knowledge, learners often become lost and confused because they cannot locate any familiar bearings in the deep sea of new information.

To further illustrate the taking background knowledge into account, the findings of several studies clearly promote the role of relevant background information in enabling L2 learners to make sense of new concepts in listening and reading passages. For example, Bransford and Johnson (1972) conducted a study that validated the necessity of background knowledge in order to successfully comprehend a particular listening passage. There were five groups of ten students. Group 1 received the listening passage
once with no accompanying pictorial aids (i.e., advance organizers, or organizing devices). Group 2 received the listening passage once, accompanied by pictorial aids shown before the listening. Group 3 received the listening passage once, accompanied by pictorial aids shown after the listening. Group 4 received the listening passage once, accompanied by a partial contextual pictorial aid shown before the listening. Finally, Group 5 received the listening passage twice with no pictorial aids.

After the groups received their respective listening comprehension techniques, the participants were required to rate the listening passage on comprehensibility using a seven-point scale. Next, they were required to recall the listening passage by rewriting the passage in as much detail as possible. Results showed that the scores for both the comprehension evaluation and recall test of the groups who received the pictorial aids before the listening passage had a marked difference over the groups who received the pictorial aids after the listening passage or who didn’t receive the pictorial aids at all. Bransford and Johnson (1972) argue that there may be several reasons for these results, one of which relates highly to background knowledge as a primary ease factor in reading comprehension.

The results from the Bransford and Johnson (1972) study indicate that the groups of participants who viewed the pictures before the listening passage were able to organize new information in their cognitive structures in such a way that influenced understanding the listening passage. Conversely, the groups of participants who viewed the pictures afterwards, or who didn’t view the pictures at all, weren’t able to organize and store new information in such a way to be of benefit to the participants. This study concludes that
relevant learner background knowledge, which in this study played the role of advance organizers, is essential for learners to process new information.

**Pictorial Glosses**

Text signaling is Hauptman’s (2000) second primary ease factor for making a text more accessible to L2 readers. Text signaling refers to both iconic and non-iconic cues that enable the reader to make better sense of the general theme of a reading passage and its details (Hauptman, 2000). Ionic cues include anything pictorial, such as pictures, diagrams, graphs, or charts; whereas non-ionic cues include anything verbal, such as titles, subtitles, definitions, glosses, underlining, or boldfacing (Hauptman, 2000). For the purpose of the current study, we will only focus our attention on iconic cues, particularly pictures.

There have been several studies conducted that underscore the powerful impact that iconic cues have on reading comprehension. For example, in 1979, Omaggio conducted a study to determine the effects of text-type and pictorial aids upon reading comprehension using 664 participants enrolled in either a first-semester psychology course or a second-semester French course. The participants were randomly placed into three various textual contexts, each housing six various pictorial contexts. The textual contexts included: 1) a 650-word story in French; 2) the same 650-word French story adapted in English for the psychology students; and 3) no text. The third textual context category was used to observe any influence of the visuals on the comprehension of the story. The pictorial contexts included: 1) no pictorial aids; 2) one pictorial aid showing the overall theme of the story; 3) one pictorial aid showing the main context at the beginning of the story; 4) one pictorial aid showing the main context during the middle of
the story; 5) one pictorial aid showing the main context at the end of the story; and 6) three pictorial aids showing the story chronologically.

After presenting the participants with the various reading comprehension techniques, the participants were required to complete a written 10-minute timed summary of the reading passage in English, as well as a 20-item Multiple-choice/True-false objective test. The results from this study indicate two main underlying points relating to the current research. The first significant finding is that pictorial aids have “a significant positive effect on reading comprehension” (Omaggio, 1979, p.114) for learners reading an L2 text. Omaggio concludes, “The advantage of having pictures with the French text must have been due to the fact that they served as an advance organizer” (p. 115). The second significant finding is that “the choice of visual aid is important” to enable L2 readers to make sense of the reading passage. Omaggio explains that L2 readers need visual aids that give enough appropriate information, but that do not have so much detail that the visual aids become ineffective for learning.

Brown (2003) conducted a study that lends additional support to Omaggio’s (1979) second significant finding mentioned above. The purpose of this study was to determine the correlation between the level of directness of a pictorial aid and the learner’s ability to infer a correct meaning of an L2 French target word item encountered in a reading passage. Initially, 51 French-speaking raters evaluated 58 pictorial aids on a 5-point scale of level of directness, ranging from “Very Indirect” (1) to “Very Direct” (5) according to what the pictorial image portrayed and what the L2 target item indicated verbally. Following the collection of this data, 39 first-semester L2 French learners completed a vocabulary pretest, and then performed a think-aloud protocol describing the
meaning of L2 target items using various cues such as pictorial aids, background knowledge, context, interlingual cues, and intralingual cues. After the think-aloud protocol, the participants completed a vocabulary post-test in order to assess the gains in vocabulary knowledge.

The findings of Brown’s (2003) study were quite intriguing, only a few of which will be mentioned here. Perhaps the most important results of this study indicate that there is a significant correlation between the level of directness of a pictorial aid and the degree to which a learner will use the pictorial image to infer the meaning of the L2 target item. In other words, the more the pictorial image directly reflects the L2 target item, the more the learner will rely on the pictorial image to infer the meaning of the L2 target item. In fact, the findings of this study specifically indicate that there is a significant difference between the degree to which learners used pictorial images rated as “Somewhat Direct” (3) and pictorial images rated as “Indirect” (2). For example when learning the word “ball,” a learner will more likely use a picture to infer meaning that illustrates a soccer ball with nothing in the background—a more direct representation of the target word meaning—than a picture that depicts a soccer ball situated on a soccer field with players and fans around—a more indirect representation of the target word meaning.

This study also revealed that the more a pictorial image directly reflects the L2 target item, the less the learner used the context in which the word appeared to infer the meaning of the L2 target item. Finally, the findings of the study suggest that the more a pictorial image directly reflects the L2 target item, the more a learner correctly infers the L2 target item meaning. In sum, Brown’s (2003) study supports the notion that pictorial
aids enable a learner to effectively develop L2 vocabulary, a common thread in other vocabulary learning studies.

Finally, Park (2000) conducted a study to determine the effect of pictorial glosses upon acquiring meanings of words unique to the target culture. One hundred forty-two first-semester L2 French students were randomly divided into either an experimental or control group wherein they completed three computerized French vocabulary tutorials, each tutorial presenting vocabulary items from various topics (i.e., the house and the city; meals and grocery items; and vacations and transportation). Before commencing the vocabulary tutorial, all of the participants completed a vocabulary pretest to determine the participants’ prior knowledge of the target vocabulary. Next, as programmed, the vocabulary tutorial divided the participants into either the experimental or the control groups. The participants in the experimental group read a text supplemented with pictorial glosses illustrating the target words as portrayed in the French culture. The participants in the control group received the same computerized vocabulary tutorials, but without the pictorial glosses.

Immediately following the vocabulary tutorials, the participants completed two post-tests. The first vocabulary recall test determined the participants’ ability to retrieve the target words’ denotative meanings. The second vocabulary recall test examined the participants’ ability to retrieve the target words’ connotative meanings according to the target culture. The results from the vocabulary recall tests indicate that pictorial glosses significantly influence the L2 learner’s comprehension of target words.

The combined findings of the reading comprehension study by Omaggio (1979) and the vocabulary acquisition studies by Brown (2003) and Park (2000) strongly support
the crucial role that pictorial aids play in reading comprehension and vocabulary development. Beheydt (1987) clearly supports this point:

Evidence is mounting that the use of visual representations may precipitate the semantization process. Especially with concrete picturable words (e.g. table, house), the picture serves as an associative aid to constructing the conceptual network that is connected with a word … Pictures appear to be importantly implicated in concept formation and in this respect they obviously affect how well we remember verbal material. (p. 62)

In other words, pictorial aids allow a reading passage to become more accessible to the learner, providing an important support system upon which language learners may lean while building a comprehension bridge from the known to the unknown; or stated another way, enabling learners to rename L1 concepts with L2 labels.

**Language-level Difficulty**

Besides a learner’s background knowledge and text signaling—acting as primary ease factors—Hauptman (2000) suggests language level difficulty acts as a secondary ease factor to facilitate L2 reading comprehension. In other words, an advanced-level French reading passage is more accessible to an L2 learner enrolled in a fourth-semester French course than to an L2 learner enrolled in a first-semester French course. Therefore, the amount of unknown words in any given reading passage affects reading comprehension and vocabulary acquisition.

The findings of several reading comprehension studies (Nation, 2001; Carver, 1994; Laufer, 1989; Liu & Nation, 1985) indicate that a reader should know at least 95%
of the words in the reading passage, or at least 19 out of every 20 words of text, in order for a reader to effectively understand the main and specific ideas of a reading passage as well as acquire meaning of unknown words. Although other reading comprehension researchers (Hu & Nation, 2000) indicate that reading comprehension can occur at known-word levels as low as 80%, the findings of this same research support the notion that the 95% known-word level is the threshold level for optimal success in reading comprehension.

**Context**

Another facilitating factor specific to vocabulary acquisition has to with the sentences and paragraphs in which a word appears. Explaining this concept as “context,” Read (2000) states: “The sentence or utterance in which the target word occurs” (p. 29). Because each word’s meaning is tied directly to the situation surrounding the communicative act, context is essential to understanding vocabulary (Read, 2000). This research explains:

In normal language use, words do not occur by themselves or in isolated sentences but as integrated elements of whole texts and discourse. They belong in specific conversations, jokes, stories, letters, textbooks, legal proceedings, newspaper advertisements and so on. And the way that we interpret a word is significantly influenced by the context in which it occurs (Read, 2000, p. 4).

Moreover, Brown, Collins and Duguid (1989) describe words at the sentential level as belonging to something greater than single “islands, entire unto themselves” (p. 32). Indeed, there is a great amount of deictic words, or determiners (i.e., “I, here, now, next, tomorrow, afterwards, this”), upon which the meaning of a word isn’t just “context-
sensitive,” but “context-dependent” (Brown et al., 1989, p. 32). It seems, therefore, that the majority of the vocabulary that learners acquire is extremely reliant upon context.

Findings in vocabulary learning research help further illustrate the value of context in vocabulary development. Krashen’s (1993) review of L1 vocabulary acquisition research indicates that most of children’s vocabulary development occurs during “free voluntary reading” (i.e., reading done leisurely), and argues that a greater portion of children’s vocabulary is learned incidentally in contextually-rich settings. Hatch and Brown (1995) define incidental learning as “the type of learning that is a byproduct of doing or learning something else” (p. 368). Moreover, Nagy, Herman, and Anderson (1985) argue that children acquire anywhere from 600 to 5,000 words per year in the native tongue, primarily by leisure reading. Miller and Gildea (1987) also claim that children learn approximately 5,000 words per year, and furthermore break that figure down to a daily count of at least 13 words. Miller and Gildea affirm, “No one teaches children 13 or more words per day” (Miller & Gildea, 1987, p. 94). Therefore, L1 vocabulary development is more a result from incidental learning in contextually-rich settings than from the minor contributions of explicit vocabulary instruction (Krashen, 1993; Nagy, et al., 1985).

L2 vocabulary developmental research also claims that L2 learners require contextually-rich settings in order to maximize their learning. Nagy (1997) indicates that although L2 readers may not be able to use as many contextual clues to decipher the L2 linguistic code as do L1 readers in the target language, they may need the contextual clues more than L1 readers because L2 readers “encounter unfamiliar words at a greater rate than first-language readers, and are also more likely to encounter unfamiliar
meanings of words” (p. 76). Furthermore, Milton and Meara (1995) argue that L2 learners in the target language environment acquire approximately 2,500 words per year—half the amount of L1 learners—many of which are encountered in context in incidental learning situations.

Not all vocabulary learning researchers, however, share the opinion that context always facilitates vocabulary acquisition. For example, Schatz and Baldwin (1986) conducted a study to determine the effect of contextual clues in aiding readers to recognize “the meanings of low-frequency words in naturally occurring prose” (p. 442). The researchers defined low-frequency words as ones that appear up to four times in one million running words. One hundred and one students in Grades 10 and 11 were required to complete one of two multiple-choice, 25-item tests. The participants in the first group encountered target words in paragraph-length contexts taken from novels from the school’s reading lists for students enrolled in grades 10 and 11. After each word was encountered, the participants were given multiple-choice answers from which they were required to select the correct synonym of the target word. The participants in the second group encountered the same target words, but in isolation, with only multiple-choice answers from which to choose the correct synonym. In other words, the participants in the second group simply received a multiple-choice vocabulary test.

Schatz and Baldwin (1986) used the school’s reading list novels to choose the target words, which words were field-tested on another set of 10th-grade, college-bound students to determine prior knowledge of the test items. The researchers set a target word rejection level at 65%. If 65% of the field-testing students knew a possible target word,
the target word wasn’t used. In addition, the context of the target words was taken from the original readings, with a mean length of 65 words.

The results indicated that there was no significant difference between the test scores of either group for the acquisition of low-frequency words. Schatz and Baldwin (1986) conclude that one reason that these results conflict with results of other vocabulary acquisition studies of the same nature may be attributed to their use of contexts that are not contrived, but that naturally occur in authentic texts. Stated another way, the nature of contextual clues (e.g., salient vs. opaque) may either aid or inhibit vocabulary acquisition, an assertion supported by other L2 vocabulary development researchers.

In investigating this area, Mondria and Wit-de Boer (1991) based their research on a study conducted by Schouten-van Parren, the findings of which support the principle that vocabulary is best acquired during reading because the vocabulary is surrounded by contextual clues. These researchers, seeking to determine the types of contextual clues that aid learners in vocabulary development, placed eight unknown vocabulary words, as verified by the participants’ coursework, into contrived sentences ranging from contexts containing opaque factors to contexts with salient factors, or those that have a strong relationship with the target word. Table 2 illustrates various contexts with factors ranging from salient to opaque as determined by the use of the subject (i.e., subj.), verb and/or function of the target word (i.e., func.) in the sentence.

One hundred and thirty-nine Dutch learners of French randomly received the various sentences illustrating various types of contexts and were required to infer the meaning of the target words by guessing the appropriate translation. The results indicated
Table 2

*Specification of the Eight Types of Context for the Target Word* arrosoir

<table>
<thead>
<tr>
<th>Contextual factors</th>
<th>condition</th>
<th>subj.</th>
<th>verb</th>
<th>func.</th>
<th>Sentence in French</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
<td>Le jardinier remplit un arrosoir pour donner de l’eau aux plantes.</td>
</tr>
<tr>
<td>2</td>
<td>+</td>
<td>+</td>
<td>–</td>
<td></td>
<td>Le jardinier remplit un arrosoir pour finir son travail.</td>
</tr>
<tr>
<td>3</td>
<td>+</td>
<td>–</td>
<td>+</td>
<td></td>
<td>Le jardinier cherche un arrosoir pour donner de l’eau aux plantes.</td>
</tr>
<tr>
<td>4</td>
<td>+</td>
<td>–</td>
<td>–</td>
<td></td>
<td>Le jardinier cherche un arrosoir pour finir son travail.</td>
</tr>
<tr>
<td>5</td>
<td>–</td>
<td>+</td>
<td>+</td>
<td></td>
<td>Je remplis un arrosoir pour donner de l’eau aux plantes.</td>
</tr>
<tr>
<td>6</td>
<td>–</td>
<td>+</td>
<td>–</td>
<td></td>
<td>Je remplis un arrosoir pour finir mon travail.</td>
</tr>
<tr>
<td>7</td>
<td>–</td>
<td>–</td>
<td>+</td>
<td></td>
<td>Je cherche un arrosoir pour donner de l’eau aux plantes.</td>
</tr>
<tr>
<td>8</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>Je cherche un arrosoir pour finir mon travail.</td>
</tr>
</tbody>
</table>

*Note.* + = salient; – = opaque. From Mondria and Wit-de Boer, 1991, p. 256

that L2 learners are able to infer the meaning of target words more effectively in sentences where the use of the subjects, verbs and the functions of the target words contributed to salient factors than in sentences with opaque factors. The Mondria and Wit-de Boer (1991) study, among others, indicates the important role context can play in L2 reading comprehension and vocabulary acquisition.
In review, the presence of facilitating factors such as relevant background knowledge, right iconic cues, appropriate levels of language difficulty, and pertinent contextual clues allow learners to more effectively access L2 reading texts in order to acquire meanings of target words.

**The CALL Environment and Its Relationship to Vocabulary Acquisition**

As we compare current techniques in conducting research with those of a few decades ago, it may well be thought that the pioneers of L2 reading comprehension and vocabulary acquisition research used crude methods for gathering data. For example, when Bransford and Johnson (1972) and Omaggio (1979) conducted their studies on listening and reading comprehension, respectively, materials such as tape recordings, hand-held visual aids, and paper tests were considered the primary forms of instruments used to deliver the various research treatments and to collect viable data. More recent studies (Brown, 2003; Park, 2000) have employed sophisticated computer programs and data collection software to conduct their research. These newer, refined techniques have simplified the logistics of the research experience.

The Computer Assisted Language Learning (CALL) environment has created a paradigm shift in methods of conducting SLA research in a positive way. This change in research methodology allows researchers to answer a broader range of questions, because the methods are not limited to certain types of technology. For example, Chun and Plass (1996) used a computer program to determine the effects of multimedia on reading comprehension and vocabulary acquisition. After viewing a video segment, the participants individually read a short story wherein there were annotated target words. All of the annotated words had textual definitions, but only some of the annotated words had
additional pictorial glosses or short video clips. Once the participants finished the story, they were required to take an unannounced vocabulary test as well as summarize the story they had just read. The results indicated that the participants recalled to a greater extent the target words that were annotated visually and verbally than target words that were only annotated verbally.

Moreover, the use of the Internet and computer databases appears to facilitate the data collection process. For example, Brown (2003) conducted a study using the Internet where 39 subjects completed a think-aloud protocol as they read a text in French accompanied by pictorial glosses. Without the computer technology offered by the university, the researcher would have conducted the study using tape recorders and paper copies of the various testing instruments, including the reading text and pictorial glosses. Furthermore, each participant would have had to receive the treatments separately with a test proctor present to gather the data. Instead, Brown was able to collect the research data via a computer database. Clearly, the CALL environment allows SLA researchers to delve into a broader range of topics and be more efficient in conducting research.

**Summary**

With respect to vocabulary learning, it is evident that there are extensive demands on the learner’s attention in order to fully learn a word—namely, word forms, meanings and uses. In addition, it is clear that a learner must encounter a word more than once as the target word passes through three stages of vocabulary acquisition (i.e., Noticing, Retrieving and Generating).

Although learning a word can be a daunting process, especially as we consider what it takes to learn a word, there are factors that will affect how easily it is for L2
learners to learn new words—specifically, relevant background knowledge, proper text signaling, appropriate levels of language difficulty, and pertinent context. Furthermore, the research conducted in the area of the CALL environment has illustrated beneficial impacts on vocabulary acquisition research.

While there has been extensive research conducted on the effects of various word learning factors and techniques, researchers in this area of L2 learning (Beheydt, 1987; Brown, 2003; Read, 2000) have concluded that more exploration in the area of acquiring various meanings of words must be pursued. In particular, there is a need to know how language learners infer additional word meanings.
CHAPTER 3: STUDY DESIGN AND PROCEDURES

Overview

While it is widely accepted that there are several techniques learners can use to acquire senses of words in a foreign language, there is still much to be learned about particular vocabulary learning techniques when inferring additional senses of words—senses other than the one initially encountered in the reading passage. As a step in that direction, this study focuses on using 1) contextual clues embedded within a reading passage and 2) pictorial glosses depicting a word’s sense to enable a learner to infer additional senses of the word. This chapter describes the population and sample, experimental design, instruments, treatment development, implementation and procedures, and data analysis of this study.

Population and Sample

The current vocabulary learning research was conducted at Brigham Young University (BYU) in Provo, Utah during Winter Semester 2005. The researcher used subjects from the population of students enrolled in the first year, second-semester French class (French 102) at BYU. There were four sections of French 102 offered, not including the accelerated French sections, totaling 92 students. All 92 students were asked to participate on a volunteer basis in the study as stipulated by the human subjects review committee.

There were several factors that contributed to the selection of this particular population and sample. First, all of the participants had the same course curriculum, textbook, and homework manual. Second, the participants were taught by student instructors who had each received the same pedagogical training, and who were expected
to teach the students according to the same teaching methodologies. Finally, the French 102 language level was particularly important since it enabled the researcher to select an adequate number of target words previously unknown to the participants from the chosen reading passage, yet the participants at the French 102 level had the language background necessary to understand close to 95% of the target text, a level consistent with recommendations from existing reading comprehension research. For example, Nation (2001) determined that learners need to understand 95% of the running text, or 19 in 20 words, in order to effectively develop new vocabulary. These factors contributed to an ample sample size for the current study while enabling the researcher to control the extraneous variables that may have otherwise skewed the participants’ performance on the immediate test of vocabulary recall.

**Experimental Design**

In the experimental design for the current study, the subjects were randomly assigned to one of two groups, Group A or Group B. Using a researcher-designed Web-Based (WB) program on the Internet, the participants in both groups received over time both vocabulary development treatments as specified by the Repeated Measures statistical procedure. As a reminder, the vocabulary learning treatments used in the current research were the Repeated Textual Encounter (RTE) technique, where the participants encountered a target word twice textually, and the Pictorial Encounter (PE) technique, where the participants encountered a target word once textually and once pictorially. On the one hand, as the participants in the first group (Group A) encountered a target word, the WB program presented the target word to Group A using one of the two vocabulary treatments. On the other hand, as the participants in the second group
(Group B) encountered the same word as encountered by Group A, the WB program presented that target word to Group B using the opposing vocabulary treatment.

The researcher chose the Repeated Measures statistical procedure as the statistical tool for the proposed experimental design for two reasons. First, this statistical procedure strengthened the analysis of the results from the immediate test of vocabulary recall by enabling the researcher to analyze the collected data within, and between, groups. Second, this approach made it highly unlikely for students participating in the proposed study to recognize a difference in treatments between Groups A and B, which strengthened the validity of the results on the immediate test of vocabulary recall.

For example, if Group A only received the RTE technique where the computer monitor displayed only text, and Group B only received the PE technique where the computer monitor displayed text and pictorial glosses, there would have been an observable difference between the display on the computer monitors of Group A and Group B. Fortunately, by using the chosen statistical procedure, if a participant assigned to Group A happened to glance at another computer monitor that was displaying a pictorial gloss for a participant unknowingly assigned to Group B, the participant in Group A would not have recognized any difference between his vocabulary treatment and the vocabulary treatment for the participant in Group B since both treatments contained pictorial glosses. Furthermore, if a participant assigned to Group A happened to view a pictorial gloss illustrating the meaning of word from the text assigned to Group B, the participant in Group A would most likely not be able to make a connection between the displayed pictorial gloss and the target word in the text since the participant in Group A was not the one who clicked on the word to display the image. These two reasons
strongly suggest that the Repeated Measures design was the best approach for the proposed study involving these particular vocabulary development treatments.

The vocabulary development treatments—the independent variables for the proposed study—are described as follows:

*Repetitive Textual Encounter (RTE) treatment:* Using a reading passage, the participants textually encountered highlighted target words twice, surrounded by contexts that were similar in content using the same word sense at each encounter. (See Figure 1 to view a screen shot of the display monitor illustrating two textual encounters of the same target word.) It was anticipated that each target word would be unknown to the learner. An unknown word was determined by a subject incorrectly marking a vocabulary pretest item.

*The Pictorially Enhanced (PE) treatment:* Using a reading passage, the participants encountered highlighted target words twice, once textually and once pictorially. For example, as participants read the passage, they encountered target words embedded within the text, accounting for the first encounter. The participants then were able to use the computer mouse to click on the word to have the word displayed as a still picture in the margin of the text, accounting for the second encounter. Furthermore, the contextual clues surrounding the target word in the textual encounter for the PE technique were the same contextual clues surrounding the target word in the first textual encounter for the RTE technique. (See Figure 2 to view a screen shot of the display monitor illustrating two encounters of a target word—one textual and the other pictorial.)
Les fées by Charles Perrault

Il était une fois une veuve qui avait deux filles: l'aînée lui ressemblait si fort d'humeur et de visage, que quand on la voyait, on voyait la mère. Elles étaient toutes deux si désagréables et si orgueilleuses, que c'était impossible d'habiter avec elles. La cadette, qui était le vrai portrait de son père pour la douceur et l'honnêteté, était l'une des plus belles filles du monde. Comme on aime naturellement son semblable, cette mère adorait sa fille aînée, et, en même temps avait une aversion effroyable pour la cadette. La mère la faisait manger à la cuisine et travailler sans cesse.

Il était nécessaire, entre autres choses, que cette pauvre enfant allât, deux fois le jour, priser de l'eau très loin de la maison, et qu'elle rapportât pleine d'eau une grande cruche. Un jour qu'elle était à cette fontaine, une pauvre femme y est venue et elle a demandé à la fille de lui donner à boire.

«Oui, ma bonne mère.» a dit cette belle fille avec la douceur et l'honnêteté de son père. Puis, la jeune fille a cherché de l'eau au plus bel endroit de la fontaine et lui a donné à boire en soutenant toujours le pichet pour la pauvre femme pour l'aider à boire plus aisément. La bonne femme, après avoir bu, lui a dit: «Vous êtes si belle, si bonne et si honnête, que je ne peux pas m'empêcher de vous faire un don, car c'était une fée qui avait pris la forme d'une pauvre femme de village pour voir jusqu'au jour où j'aurai l'honnêteté de cette jeune fille. «À chaque parole que vous allez dire,» a dit la fée, «il va vous sortir de la bouche une fleur, ou une pierre précieuse.»

Quand cette belle fille est arrivée au logis, sa mère était fâchée parce que la fille revenait si tard de la fontaine. «Je vous demande pardon, ma mère,» a dit cette pauvre fille, «d'avoir tardé si longtemps» et, en disant ces mots, il lui est sorti de la bouche deux roses, deux perles et deux gros diamants. «Que vous je lâche!» a dit sa mère tout étonnée. «Je pense qu'il lui sort de la bouche des perles et des diamants. D'ou vient cela, ma fille?» (C'était là la première fois qu'elle l'appelait sa fille.) La pauvre enfant lui a raconté naïvement tout ce qui lui était arrivé, non...
Les fées by Charles Perrault

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pauvre fille, «d’avoir tardé si longtemps*» et, en disant ces mots, il lui est sorti de
la bouche deux roses, deux perles et deux gros diamants. «Que vois-je là?» a dit
sa mère tout étonnée. «Je pense qu’il lui sort de la bouche des perles et des
diamants. D’où vient cela, ma fille?» (C’était là la première fois qu’elle l’appelait
sa fille.) La pauvre enfant lui a raconté naïvement tout ce qui lui était arrivé, non
The dependent variable—scores on a multiple-choice immediate test of vocabulary recall—was designed to determine the effect of the RTE and PE vocabulary development techniques upon the participants’ ability to infer additional senses of target words.

**Instruments**

The current research was conducted via the Internet using a Web-based (WB) program developed by the researcher specifically to meet the needs of this study. The rationale for the WB program is three-fold. First, the WB program was able to randomly divide the participants into Groups A or B. Second, the WB program delivered to the participants the experimental instruments—the consent to be a research subject form, the questionnaires, the vocabulary pretest, the reading passage, the reading comprehension post-test, and the immediate test of vocabulary recall—in a consistent and reliable manner. For example, the WB program did not allow the participants to return to a previously viewed page. Finally, the WB program allowed the researcher to collect pretest and post-test results in digital format via a database, thus making convenient the necessary statistical analyses.

At the beginning of the study, the researcher informed the subjects that the purpose of the current research was to investigate second language learning in French reading contexts as well as the rights granted to human subjects participating in research (Appendix A). After reading the consent form, the subjects used the computer mouse to click on a computer interface button verifying their consent to participate.

Next, the participants completed a background questionnaire (Appendix B) that collected descriptive information such as the participants’ native language as well as the
amount of previous exposure to French and/or other foreign languages. Previous exposure to French and/or other foreign languages includes any experience with a given foreign language in the classroom or in the target language country in elementary, junior high or middle school, high school and college or university prior to the current semester. In addition, the background questionnaire gathered participant demographics such as age, sex, and current educational status. It was designed that the collected information from the background questionnaire would allow the researcher to assess the correlation between the various categories of background information offered by the participants and the individual results of the immediate test of vocabulary recall.

Following the background questionnaire, the participants completed Reid’s (1984) Perceptual Learning Style Preference Questionnaire (PLSPQ, Appendix C) by responding to 30 statements describing their perceived L2 learning style preferences. The PLSPQ, a five-point Likert-scale ranging from answers of strongly agree to strongly disagree, has been validated to evaluate perceived L2 learning style preferences according to six categories: 1) visual, 2) aural, 3) kinesthetic, 4) tactile, 5) group learning, and 6) individual learning. Similar to the background questionnaire, it was designed that the PLSPQ would allow the researcher to determine a relationship between perceived L2 learning style preference and the individual results of the immediate test of vocabulary recall. Although Reid developed the PLSPQ for learners acquiring English as a second or foreign language, it was assumed that the results from the PLSPQ would be valid and reliable for the sample and population since the participants responded to the statements on the PLSPQ according to their personal foreign language learning experience.
Once the background questionnaire and PLSPQ was complete, the participants completed a 22-item vocabulary pretest (Appendix D). The multiple-choice vocabulary pretest, which test design was carefully constructed by the researcher and reviewed by a testing expert to ensure comprehensibility and reliability, determined any pre-existing participant knowledge of the target words yet was designed to not teach the meanings of any of the target words to the participants. In addition, each vocabulary pretest item included a sentence in French, thus giving the item a specific context, accompanied with a blank space placed strategically in the sentence. From among six options, the participants chose the French word that most logically fit in the blank space. (See Table 3 to view an example of a vocabulary pretest item.) Finally, the WB program presented the vocabulary pretest items one at a time and in a randomized order to avoid any ordering effect upon the results of vocabulary pretest.

Table 3

Example of a Vocabulary Pretest Item

Le bûcheron est sorti du _____ après une longue journée de travail.

a. champs

b. terrain

c. domaine

d. moulin

e. bois

f. Je ne sais pas

Note: The correct answer is underlined
The rationale for this particular testing format was two-fold. First, while contriving sentences in English would affirm full participant comprehension of the context surrounding the target word, the researcher chose to contrive sentences in French because it was the format of the reading passage where the participants would initially encounter the target words in context. Furthermore, it was possible to contrive the pretest sentences in French and still ensure full comprehension by making word glosses available to participants, of which the researcher did, for words that the researcher was certain the participants did not know.

Second, although a testing format with French-English matching items was considered because of its simple design, the researcher chose a testing format with contrived sentences and a blank because it highly reduced the participants’ probability to recall pretest items while reading the passage. Furthermore, among the six choices as possible answers, the last choice, “Je ne sais pas (I don’t know),” allowed the participants to select an appropriate answer without being forced to guess, thus warranting that the answer selected was based on comprehension and not the students’ ability to guess. It was designed that these measures helped manage unwanted variables.

To further secure control of additional unwanted variables, the 22-item vocabulary pretest was made up of 12 vocabulary items that focused on target vocabulary as well as 10 vocabulary items acting as control items. These 10 control items, intermittently spaced between the target word test items, had been explicitly taught to the participants prior to the current study in the French 101 and 102 classrooms. These control items served two purposes. One, they helped verify that participants were answering according to their true knowledge. Two, they served as additional distracter
items increasing the probability that the participants would not be able to recall any of the target words from the vocabulary pretest while reading the passage. Taken together, these considerations helped ensure that the vocabulary pretest items effectively determined the participants’ prior knowledge of the target words without teaching the meanings of any of the target words to the participants.

Once the vocabulary pretest was complete, the participants advanced to the next Web page that informed them of four important details relating to the current study (Appendix E). First, the participants were informed that they would read a French fairy tale entitled *Les fées* by Charles Perrault, and that they should focus on comprehending the reading passage with the goal of successfully completing a reading comprehension test that followed.

Next, the participants were informed that they would not be able to return to the reading passage once they had moved on to the reading comprehension post-test. The rationale for informing the participants of the reading comprehension test following the reading passage is described by Hulstijn (1992). Hulstijn’s research suggests that if participants are informed that this study focuses on vocabulary recall rather than reading comprehension, the participants may consciously pay more attention to the target words and, in many cases, they may even encounter the words more than two times. In such a case, there would be no credibility in the experimental design for this study, resulting in inconclusive results.

Then, the participants were informed that there would be several highlighted vocabulary words that they more than likely would not understand. They were informed that as they used the computer mouse to click on the highlighted words, there would be
corresponding language aids (i.e., French-English translations, French synonyms, or pictorial clues) that would appear in the right-hand margin of the text to help them better understand the reading passage. (See Figure 3 to view a screen shot of the display monitor illustrating a word gloss.) The rationale for the additional textual word glosses is given credence by Nation’s (2001) research, which indicates that readers must comprehend at least 95% of the running text to make vocabulary acquisition effective.

Lastly, the participants were informed that they should click on every highlighted word even if they already felt that they knew the word’s meaning. As stated before, the WB program was designed to record every mouse click as a feature to measure the participants’ activity while reading the passage. It also allowed the researcher to verify that the participants received the PE treatment. These crucial instructions fostered control of additional extraneous variables.

Once the participants completed the vocabulary pretest, they read the passage entitled Les fées accompanied by the appropriate RTE and PE techniques, and then commenced two post-tests. The first post-test was a 5-item, multiple-choice reading comprehension test (Appendix F). The participants’ performance on the various types of reading comprehension post-test items determined the participants’ ability to process the reading text employing skills of top-down processing (thematic reading comprehension questions), bottom-up processing (specific detail comprehension questions), and inferential processing (assumptive questions). As Hulstijn (1992) suggests, the reading comprehension post-test was designed to maintain the participants’ focus on reading comprehension rather than on vocabulary development.
The second post-test was an immediate 24-item vocabulary recall test (Appendix G). The performance on half of the vocabulary test items determined the participants' word gloss.
ability to recall the meanings of the target words as the words were originally presented in the context of reading passage. The performance on the other half of the vocabulary test items determined the participants’ ability to infer additional target word meanings—word senses other than the one represented in the context within which the word was first encountered. (See Table 4 as an example of comparing the two types of post-test items—the first item tested the participants’ knowledge of the sense of the word as encountered in the reading passage; the second item tested the participants’ knowledge of a different sense of the target word as the one encountered in the reading passage.) Based on the same principles discussed for the vocabulary pretest, the items of the immediate test of vocabulary recall were presented to the participants one at a time and in a random order.

Although the two post-test items seem to portray the same word sense, they are in fact different. In the first post-test context, the item in question is big and is used to get water at a spring. As we attempt to describe the item in question according to the surrounding context, there are several plausible items that are big and can be used to get water from a spring; namely, a bucket, a canteen, and a pitcher among others. In the second post-test item context, the item in question is something that contains water and is large enough to serve eight people at a time. As we set out to define the item in question according to this context this time, we resolve that there is essentially only one word that fills the description offered—a pitcher. By describing these two contexts in detail, it is easier to see the distinguishing features of the various senses of the word “cruche.”

In addition, the immediate test of vocabulary recall maintained the same format as the vocabulary pretest (i.e., contrived sentences in French with a blank and six possible choices). Among the choices of possible items, there were some other target words they
Il était nécessaire, entre autres choses, que cette pauvre enfant allât, deux fois le jour, puiser de l’eau très loin de la maison, et qu’elle rapportât pleine d’eau une grande cruche.

Avant la naissance de mes grands-parents, les hommes étaient responsables de faire du jardinage pendant que les femmes étaient responsables de faire la cuisine, de faire le ménage, et aussi de chercher de l’eau avec une grande _____ à une fontaine loin de la maison.
   a. tasse
   b. pierre
   c. coupe
   d. poêle
   e. cruche
   f. Je ne sais pas

J’aime bien cette _____-là parce que je peux servir de l’eau à huit personnes à la fois.
   a. tasse
   b. fontaine
   c. cruche
   d. assiette
   e. formation
   f. Je ne sais pas

Note. In the reading passage context, the target word is underlined. In the first and second post-test items, the correct answer is underlined.

had encountered in the reading passage as well as other less known vocabulary introduced in either French 101 or French 102. The rationale for choosing select items as
possible choices on the immediate test of vocabulary recall was to use words that
courage the participants to answer correctly if they know the answer and to not guess
when they don’t. For example, if a participant were to view a test item containing choices
of possible answers that were words the participants did not encounter in the reading
passage, it would be easy for the participants to recognize and select the answer that was
the only word encountered in the reading passage. If, however, some of the other target
words were used as possible answers, along with other less-known French curriculum
vocabulary, the participant had to consider every option as equal possibilities.

Constructed in this way, the immediate test of vocabulary recall along with the
other testing instruments allowed the researcher to control extraneous variables.
Therefore, the researcher was able to determine an L2 learner’s ability to infer additional
senses of newly introduced target words.

**Treatment Development**

The computerized testing instruments for the current study were developed in five
phases. The first phase consisted of selecting the reading passage using the following
criteria:

1. Selecting a text where the participants may use background knowledge, as
   Hauptman (2000) advises, to comprehend the reading passage and develop
   new vocabulary in the target language;

2. Selecting a text that is written at a language level that allows the participants
to understand 95% of the text as Nation (2001) suggests; and

3. Selecting a text with cultural content appropriate to the expectations of the
   French department at BYU for cultural activities.
*Les fées* by Charles Perrault meets all three of the above criteria as described below. First, *Les fées* is a French fairy tale and allowed the participants to use their background knowledge of fairy tales. This fairy tale, however, is not well known among American students thus making it highly unlikely that the participants would have read this text prior to the study, either in French or in another language. Second, although the majority of the text of *Les fées* is written at a language level that most French 102 students at BYU understand, the researcher slightly adapted the text to make certain that the participants comprehended 95% of the reading passage. For example, in areas of the text where vocabulary would most likely not be understood (not including the target words) there were French or English textual term glosses. Research in the area of textual word glosses used in reading comprehension (Jacobs, Dufon & Fong, 1994) suggests that there is no significant difference in reading comprehension results between using target language word glosses and native language word glosses. Another example of textual changes included changing the verb tense of passé simple (*literary past*) to passé composé (*preterit*). The researcher made this particular adaptation because the participants had not had much exposure to the former tense, and rather than either teach it to them or have them read a word gloss at each encounter of a verb in passé simple, it was easier to simply adapt the reading passage. Finally, *Les Fées* is a French fairy tale that exposed the participants to cultural content from an authentic text, rather than a contrived salient text, appropriate to the expectations of the French department for cultural activities. The researcher also used this criterion for selecting a text because reading passages in L2 learning textbooks are generally not contrived.
The second phase consisted of selecting the target vocabulary based on two criteria. First, it was important that the target words had not been introduced to the participants prior to the study as determined by the French 101 and 102 curricula at BYU. In the same vein, it was anticipated that the various student instructors had not informally introduced the target words to the participants prior to the study, given that classroom discussions and activities did not focus upon such vocabulary. Second, the target words had to be spaced far enough apart to allow the participants to comprehend 95% of the text. The 95% comprehension criteria proved difficult, especially when selecting pictorial glosses, since some of the target words have abstract rather than concrete meanings.

The third phase consisted of creating the testing instruments in three steps. Since the current study evaluated the ability of the participants to infer additional senses of the target words, the first step of the third phase consisted of defining the sense of the target word according to the situated context of the reading passage, and then creating an additional sense of the target words without a commensurate context to reflect that sense to be tested. (See Appendix H to view a copy of the document that defines the target word sense according to the reading passage and the target word sense that the participants had to infer on the immediate test of vocabulary recall.) The second step consisted of creating the vocabulary pretest, adapted reading passages (Appendixes I and J—which differ slightly in content to meet the requirements of the experimental design), reading comprehension post-test, and the immediate test of vocabulary recall. The final step consisted of an evaluation of the test instruments by two French 102 student instructors who had extensive experience working with French 102 students and one French native who has attained the level of All But Dissertation (ABD) in her French
literature doctoral program at Rutgers University, and who also had extensive experience teaching students in the beginning-level French classroom.

The role that the French 102 student instructors played in evaluating the testing instruments was rather simple. They were required to read the adapted texts to identify any words, other than the target words, that had to have a textual gloss in order to ensure 95% participant comprehensibility. Any words that were indicated by either student instructor received a textual gloss accessible in the margin of the text, much like the accessibility of the pictorial glosses. (See Figure 3 above as an example of a textual, or word, gloss.)

The required role of the French native on the other hand was much more elaborate. Initially, she read the original text by Charles Perrault to create a context for all of the testing instrument evaluations. Next, she was required to evaluate each of the testing instruments as follows:

1. Compare the word meanings of the target words in the vocabulary pretest with the word meanings of the target vocabulary in the original text to determine that the word meanings have the same word sense. (See Appendix K to view a copy of the evaluation form that was given to the French native to compare the senses of the target words between the text and the pretest.)

2. Compare the senses of the target words in the immediate test of vocabulary recall, which examine the participants’ ability to recall the original word senses, with the senses of the target words in the reading passage to determine that the both word senses are the same (Appendix L).
3. Compare the senses of the target words in the immediate test vocabulary recall, which examine the participants’ ability to infer additional word senses, with the senses of the target vocabulary in the reading passage to determine that the word senses differ from each other (Appendix M).

4. Determine that there is only one correct answer for the vocabulary pretest, reading comprehension and immediate test of vocabulary recall (Appendixes N – P, respectively).

5. Compare the original text and the adapted texts to determine that the adapted texts contain the same content as the original text (Appendix Q). Some words were changed and lines of text were either added or removed to ensure that the target words would only be textually encountered either once (PE technique) or twice (RTE technique).

6. Determine that the adapted texts maintain grammatically correct structures and written to resemble authentic French (Appendix R).

7. Compare the original text and the adapted texts to certify that the target words that have been duplicated for the requirement imposed by the RTE technique maintains the same word sense as the original word sense as presented in the original text (Appendix S).

8. Evaluate the contextual clues surrounding each target word to determine which words are situated in contexts full of contextual clues (salient contexts) and which words are not (opaque contexts, Appendix T). The purpose for this evaluation was simply to divide the target words among the RTE and PE techniques in an attempt to ensure that the words in each treatment had
roughly the same amount of salient clues surrounding the target words, and
that neither treatment was loaded with one type of word over the other
treatment.

9. Evaluate the concreteness, versus the abstractness, of the meaning of each
target word as determined by the context within which the target word is
encountered in the reading passage (Appendix U). Again, the purpose for this
evaluation was simply to divide the target words among the RTE and PE
techniques in an attempt to ensure that the words in each treatment had
roughly the same amount of words that had concrete and abstract senses so
that neither treatment was loaded with one type of word over the other
treatment.

The criteria set for each evaluation mentioned above differed according to the
objective of the evaluation as stated on each of the appendixes, and was used to control
unwanted variables.

The fourth phase consisted of selecting appropriate pictorial glosses that were
shown to the participants as they encountered target words using the PE technique. The
researcher downloaded four pictorial images for each target word from various web sites
that depicted the sense of the target words as closely as possible to the sense of the target
words as portrayed in the reading passage. In cases where it was difficult to obtain digital
images representing the context of the target words in the reading passage, digital images
depicting a neutral context for the target words were downloaded.

The researcher requested the French native to use her expertise to complete this
phase as well. Her role in completing this phase was simple. The French native selected
the digital image among the four options that most appropriately portrayed the sense of
the target words according to the context of the reading passage. (See Appendix V to
view the evaluation form used by the French native to rate the pictorial glosses in how
they represented the meanings of the target words.)

Although the researcher took extra care in selecting pictorial glosses to illustrate
the meanings of the target words according to the context of the reading passage, some of
the images selected for this study may be considered less than ideal. In other words, some
senses of words were more difficult to portray than others all while adhering strictly to
the specifications of the treatments where the participants would encounter each word
twice.

An example illustrated in the current study is the pictorial gloss chosen to
represent the target word “puiser” (to draw [water]). The researcher chose to display an
image that depicted a more neutral meaning of the word rather than a visual that
portrayed more perfectly the context within which the word was encountered. The
rationale for this decision was due to the limitation of the treatments. Each target word
could only be encountered twice, textually and/or pictorially. Since the sense of the word
“puiser” in the context of the story accompanied the use of a “cruche” (pitcher [of
water]), another target word, the picture which displayed a girl drawing out water out of
a small fountain with a “cruche” could not be used since the participant viewing that
image would have encountered the word “cruche” three times; twice as it was presented
by itself and a final time as it would have been presented with the word “puiser.” The
neutral image, therefore, portrayed a less robust meaning of the target word.
The final phase consisted of developing the software (Web-based, or WB, program) with the help of a computer programmer. Among the various characteristics already mentioned, there were two additional important features incorporated into the WB program that facilitated this research. 1) The WB program database did not only capture and record the participants’ pretest and post-test responses as mentioned at the beginning of the previous section, but it also recorded the participants’ mouse clicks to help account for related extraneous variables such as participants not clicking on all of the highlighted target words. If certain participants were to only click on a few highlighted target words, they would not be shown the appropriate digital images, thereby not truly receiving the PE treatment. 2) The information provided by the database was only accessible to the researcher. These two characteristics provided greater reliability to the testing instruments. More importantly, the development of the evaluative instruments over these five phases enabled the investigator to consider the array of unwanted variables in order to answer the research questions.

**Implementation and Procedures**

At the beginning of this study, the French 102 classroom instructors informed their students of the possibility of participating in a 90-minute computerized French language learning research study in exchange for credit for two cultural activities (a BYU French department requirement). In addition, they were informed that their performance throughout the study would not be included as part of their semester grade for French 102. Finally, the students were informed that they would be able to participate in this study for a period of three days by reporting anytime during open computer lab hours to the College of Humanities CLIPS and PC labs (3044 or 3065 JKHB, respectively) where
they would be able to complete the computerized language study on either Macintosh or IBM PC computers.

As the subjects entered the computer labs, the subjects reported to the on-duty lab assistant for help in getting the experiment underway. The lab assistant 1) directed the students to designated computers, 2) retrieved the opening Web page of the current study’s WB program, 3) informed the students that they would not be able to refer to any notes, dictionaries, textbooks or outside help while completing the French language study; and 4) informed the participants to return to the lab assistant after completing the research study. Once completed, the participants returned to the lab assistant and received two cultural activity tokens to be given to their respective classroom instructor.

**Data Analysis**

The results from the immediate test of vocabulary recall were analyzed using the Repeated Measures statistical technique with the aid of a Ph.D. student in Instructional Psychology and Technology at BYU. This student’s statistical credentials include completing graduate-level statistic courses geared toward social sciences and graduate-level SLA courses. The SPSS 13 statistical package performed the $t$ test to evaluate the first two null hypotheses listed below and the Repeated Measures statistical analysis to evaluate the final null hypothesis.

**Null Hypotheses**

1. There is no statistical difference in a learner’s ability to infer additional senses of target words when the learner encounters words using the RTE vocabulary learning treatment as determined by the vocabulary net gains between the
vocabulary pretest and the portion of the immediate test of vocabulary recall that
determines a learner’s ability to infer additional senses of the target words.

2. There is no statistical difference in a learner’s ability to infer additional senses of
target words when the learner encounters words using the PE vocabulary learning
treatment as determined by the vocabulary net gains between the vocabulary
pretest and the portion of the immediate test of vocabulary recall that determines a
learner’s ability to infer additional senses of the target words.

3. There is no statistical difference in a learner’s ability to infer additional senses of
target words when the learner encounters words by using either the RTE or the PE
vocabulary learning treatments as determined by the vocabulary net gains
between the vocabulary pretest and the portion of the immediate test of
vocabulary recall that determines a learner’s ability to infer additional senses of
the target words.
CHAPTER 4: RESULTS OF THE STUDY

Introduction

Research in the field of second language (L2) vocabulary acquisition emphasizes that there are several ways to acquire vocabulary (Chun & Plass, 1996; Hauptman, 2000; Nation, 2001; and Paivio & Lambert, 1981). The purpose of this research study was designed to determine the effect of 1) multiple textual encounters of target words (Repeated Textual Encounter, or RTE, treatment) and 2) a textual encounter of target words coupled with a pictorial gloss (Pictorial Encounter, or PE, treatment) upon a learner’s ability to infer additional senses of the target words—senses that differ from the one encountered in the reading passage. Moreover, the current study determined which of these two vocabulary learning treatments enable a learner to acquire additional senses of target words more effectively.

As participants encountered target words through means of the PE treatment, they viewed these words once textually and were also given the opportunity to click on the word using the computer mouse, prompting the software to display in picture form the sense of the word as defined by the surrounding literary context. Participants who were engaged in the RTE treatment encountered target words twice textually where the sense of the words was the same in both encounters.

There were 92 potential participants who were enrolled in a second-semester French class at Brigham Young University (BYU), but only 29 volunteered to participate in the study. As the participants began the Web-Based (WB) research study, the WB program randomly divided the participants into two separate groups, Groups A and B. Both groups received both treatments as required by the Repeated Measures experimental
design for 12 target words. Both groups, however, did not receive both treatments for the same words. The group assignment only determined which participants received which 6 of the 12 target words using the PE treatment and which 6 of the 12 target words using the RTE treatment. For example, on the one hand, Group A received the RTE treatment for words 1-6 and the PE treatment for words 7-12. Group B, on the other hand, received the PE treatment for words 1-6 and the RTE treatment for words 7-12. Although the target words were never numerically ordered, this example helps illustrate the differences between the groups in the ways in which each group encountered the target words.

Prior to receiving the RTE and PE treatments, the participants were required to take a vocabulary pretest to establish a baseline vocabulary level for each participant. Immediately following the vocabulary treatments, the participants completed a multiple-choice vocabulary recall test used to determine the net gains of the vocabulary treatments. (According to Dennis Eggett, Ph.D., faculty member in the BYU Statistics department, using net gains is a widely accepted method among statisticians for determining significance levels for experimental designs with a pretest and a post-test.) To test the research hypotheses, the SPSS 13 statistical package was used to perform two types of statistical tests: 1) a t test, which was used to determine the statistical significance of the first two models described below; and 2) a Repeated Measures analysis of variance (ANOVA), which was used to determine the statistical significance of the third model described below.

**Statistical Analysis Models**

1. Model 1: The vocabulary gains between the scores of the vocabulary pretest (VocPre) and the portion of the immediate vocabulary recall test that
determined the learner’s ability to infer additional senses of the target words (PostI) as measured by the results of both groups when subjected to the RTE treatment.

2. Model 2: The vocabulary gains between the scores of the VocPre and the PostI as measured by the results of both groups when subjected to the PE treatment.

3. Model 3: The difference between the vocabulary gains as measured by the results of both groups when subjected to the RTE treatment and the vocabulary gains as measured by the results of both groups when subjected to the PE treatment.

Results

Research Hypothesis—Inferring additional word senses using the RTE treatment

Model 1 was used to determine the effect of the RTE treatment upon a learner’s ability to infer additional senses of target words. A $t$ test was used to test whether the vocabulary gains between the VocPre and the PostI were statistically significant. Rather than analyzing the effect of the RTE treatment upon the vocabulary gains by participant, the researcher analyzed the effect of the RTE treatment upon the vocabulary gains as determined by the success of learning words unknown prior to treatment. In other words, the vocabulary pretest results confirmed that there were several words that were considered to be known by the participants before receiving the treatments. Instead of excluding subject-by-word cases from participants who knew some of the target words, thereby throwing out other viable cases along with non-viable cases in an already-considered small sample size, the researcher rectified the analysis by considering only
unknown words. Furthermore, the researcher excluded subject-by-word cases because the inclusion of the words known prior to the treatment would inappropriately lower the average gain scores. In other words, the gain scores needed to be controlled for prior knowledge.

Due to the exclusion of words marked correctly on the pretest, only 127 observations (out of the 174 in the data set) were used in this statistical analysis. The 127 observations were calculated by the number of unknown words (as determined by the vocabulary pretest) answered correctly on the PostI that were administered to the participants using the RTE treatment. Stated another way, 29 subjects encountered six words using the RTE treatment, but 47 of those subject-by-word cases were indicated as known and were not included in the analysis of the data set.

As illustrated in Table 5, the RTE treatment had a statistically significant effect upon a participant’s ability to infer additional senses of target words ($p < .000$).
Table 5

*One-sample Test: RTE treatment—PostI-Pre*

Test Value = 0

<table>
<thead>
<tr>
<th>Test</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>M Diff</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td>PostI-Pre</td>
<td>7.611**</td>
<td>126</td>
<td>.000</td>
<td>0.315</td>
<td>.233</td>
</tr>
</tbody>
</table>

*Note.* PostI = post-test score that determined a learner’s ability to infer additional senses of target words; Pre = vocabulary pretest score; df = degrees of freedom; M Diff = mean difference score between the PostI and the Pre (see also Table 4, Row PostI-Pre, Column M); Lower = mean difference (0.315) minus the standard deviation divided by the square root of one less the sample size; Upper = mean difference (0.315) plus the standard deviation divided by the square root of one less the sample size.

**p < .01, two-tailed.

In addition, Table 6 presents the descriptive statistics of the first model, indicating that, on average, the RTE treatment enabled the participants to increase their knowledge of additional target word senses in this study by close to 32%, or 1.890 words out of 6.
Table 6

*Descriptive Statistics: RTE treatment—Pre, PostI, and PostI-Pre*

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>127</td>
<td>.000</td>
<td>.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>PostI</td>
<td>127</td>
<td>.000</td>
<td>1.000</td>
<td>0.315</td>
<td>0.466</td>
</tr>
<tr>
<td>PostI-Pre</td>
<td>127</td>
<td>.000</td>
<td>1.000</td>
<td>0.315</td>
<td>0.466</td>
</tr>
</tbody>
</table>

*Note.* N = number of unknown words marked correct on the PostI while using the RTE treatment; Min = lowest score a subject can receive for any test item (e.g., 0 = incorrect; 1 = correct); Max = highest score a subject can receive for any test item; M (Pre, PostI) = mean score of words marked correctly; M (PostI-Pre) = mean difference score between the PostI and the Pre; SD (Pre, PostI) = standard deviation of the range of scores; SD (PostI-Pre) = standard deviation of the range of scores for the vocabulary gains.

Furthermore, in order to determine differences in the learning of various words, the researcher used a *t* test to assess the effects of the RTE treatment upon a learner’s ability to infer additional senses of each target word. Interestingly, the analysis of the data shows that the learning outcome differed according to the target word. Indeed, as shown in Table 7, the participants using the RTE treatment were able to significantly infer additional word senses for the target words “crapaud,” “douceur,” “étonné,” “haïr,” and “visage” where they were unable to do so with the other target words, especially for the word “visage” where every subject who didn’t know the word before the treatment was able to infer an additional sense of the word. To the contrary, the RTE treatment did not enable participants at all to infer an additional sense of the word “bois.”
### Table 7

**One-sample Test: RTE treatment by Word—PostI-Pre**

<table>
<thead>
<tr>
<th>Target word</th>
<th>N</th>
<th>Diff</th>
<th>SD</th>
<th>(t)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>bois</td>
<td>8</td>
<td>0.00%</td>
<td>0.000</td>
<td>1.000</td>
<td>.000</td>
</tr>
<tr>
<td>crapaud</td>
<td>7</td>
<td>57.14%</td>
<td>0.495</td>
<td>2.828*</td>
<td>.030</td>
</tr>
<tr>
<td>cruche</td>
<td>13</td>
<td>23.08%</td>
<td>0.421</td>
<td>1.898</td>
<td>.082</td>
</tr>
<tr>
<td>don</td>
<td>13</td>
<td>15.38%</td>
<td>0.361</td>
<td>1.477</td>
<td>.166</td>
</tr>
<tr>
<td>douceur</td>
<td>13</td>
<td>69.23%</td>
<td>0.462</td>
<td>5.197**</td>
<td>.000</td>
</tr>
<tr>
<td>étonné</td>
<td>7</td>
<td>71.43%</td>
<td>0.452</td>
<td>3.873**</td>
<td>.008</td>
</tr>
<tr>
<td>habits</td>
<td>8</td>
<td>25.00%</td>
<td>0.433</td>
<td>1.528</td>
<td>.170</td>
</tr>
<tr>
<td>hair</td>
<td>11</td>
<td>45.45%</td>
<td>0.498</td>
<td>2.887*</td>
<td>.016</td>
</tr>
<tr>
<td>pierre</td>
<td>13</td>
<td>15.38%</td>
<td>0.361</td>
<td>1.477</td>
<td>.166</td>
</tr>
<tr>
<td>puiiser</td>
<td>15</td>
<td>13.33%</td>
<td>0.340</td>
<td>1.467</td>
<td>.164</td>
</tr>
<tr>
<td>soutenant</td>
<td>14</td>
<td>7.14%</td>
<td>0.258</td>
<td>1.000</td>
<td>.336</td>
</tr>
<tr>
<td>visage</td>
<td>5</td>
<td>100.00%</td>
<td>0.000</td>
<td></td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note. N = number of observations where the word was unknown prior to the treatment; Diff = the percent of participants who answered the item correctly on PostI.  
*\(p < .05\), two-tailed. **\(p < .01\), two-tailed.*

**Research Hypothesis—Inferring additional word senses using the PE treatment**

Model 2 was used to determine the effect of the PE treatment upon a learner’s ability to infer additional senses of target words. The vocabulary gains between the VocPre and the PostI was used as data for the computerized \(t\) test analysis. Like with the RTE analysis above, the researcher analyzed the effect of the PE treatment upon the
vocabulary gains by unknown words previous to receiving the treatment. Due to excluded cases, only 133 observations (out of the 174 in the data set) were used in this statistical analysis.

The number of observations used in the $t$ test analysis for the effect of the PE treatment ($n = 133$) differs from the number of observations used in the $t$ test analysis for the effect of the RTE treatment ($n = 127$). This difference is due to the fact that each observation in the analysis is considered subject by word. For example, if Subject 1 marked the word “bois” correctly on the pretest and encountered that word in the text using the RTE treatment, the observation for that word would be removed from the section of the dataset analyzing the RTE treatment, and would not be removed from the section of the dataset analyzing the PE treatment.

As shown in Table 8, the PE treatment also has a statistical significant effect upon a participant’s ability to infer additional senses of certain target words ($p < .000$).

Table 8

<table>
<thead>
<tr>
<th>Test</th>
<th>$t$</th>
<th>df</th>
<th>$p$</th>
<th>M Diff</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>PostI-Pre</td>
<td>6.999**</td>
<td>133</td>
<td>.000</td>
<td>.271</td>
<td>.194</td>
<td>.347</td>
</tr>
</tbody>
</table>

**$p < .01$, two-tailed.
Furthermore, Table 9 displays the descriptive statistics of the second model, illustrating that as a result of the PE treatment, on average the participants increased their knowledge of additional target word senses in this study by over 27%, or 1.626 words out of 6.

Table 9

Descriptive Statistics: PE treatment—Pre, PostI, and PostI-Pre

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>133</td>
<td>.000</td>
<td>.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>PostI</td>
<td>133</td>
<td>.000</td>
<td>1.000</td>
<td>0.271</td>
<td>0.446</td>
</tr>
<tr>
<td>PostI-Pre</td>
<td>133</td>
<td>.000</td>
<td>1.000</td>
<td>0.271</td>
<td>0.446</td>
</tr>
</tbody>
</table>

Once more, the researcher used a t test to assess the effects of the PE treatment upon a learner’s ability to infer additional senses of each target word in order to determine differences in the learning of various words. Again, the results indicate that the participants’ abilities to infer additional word senses are dependent upon the target word. Table 10 indicates that when the subjects were given the PE treatment, they could increasingly infer additional word senses for the target words “crapaud,” “cruche,” “don,” “douceur,” and “haïr” than the other target words, particularly for the word “crapaud” where every participant who did not know the word before receiving the PE treatment was able to infer an additional sense of the word. Conversely, the results indicate that the PE treatment did not enable participants at all to infer additional senses for the words “puiser” and “soutenant.”
### Table 10

*One-sample Test: PE treatment by Word—PostI-Pre*

<table>
<thead>
<tr>
<th>Target word</th>
<th>N</th>
<th>Diff</th>
<th>SD</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>bois</td>
<td>12</td>
<td>16.67%</td>
<td>0.373</td>
<td>1.483</td>
<td>.166</td>
</tr>
<tr>
<td>crapaud</td>
<td>10</td>
<td>100.00%</td>
<td>0.000</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>cruche</td>
<td>14</td>
<td>35.71%</td>
<td>0.479</td>
<td>2.687*</td>
<td>.019</td>
</tr>
<tr>
<td>don</td>
<td>13</td>
<td>30.77%</td>
<td>0.462</td>
<td>2.310*</td>
<td>.040</td>
</tr>
<tr>
<td>douceur</td>
<td>11</td>
<td>54.55%</td>
<td>0.498</td>
<td>3.465**</td>
<td>.006</td>
</tr>
<tr>
<td>étonné</td>
<td>7</td>
<td>14.29%</td>
<td>0.350</td>
<td>1.000</td>
<td>.356</td>
</tr>
<tr>
<td>habits</td>
<td>8</td>
<td>12.50%</td>
<td>0.331</td>
<td>1.000</td>
<td>.351</td>
</tr>
<tr>
<td>haïr</td>
<td>12</td>
<td>33.33%</td>
<td>0.471</td>
<td>2.345*</td>
<td>.039</td>
</tr>
<tr>
<td>pierre</td>
<td>15</td>
<td>13.33%</td>
<td>0.340</td>
<td>1.467</td>
<td>.164</td>
</tr>
<tr>
<td>puiser</td>
<td>14</td>
<td>0.00%</td>
<td>0.000</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>soutenant</td>
<td>14</td>
<td>0.00%</td>
<td>0.000</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>visage</td>
<td>3</td>
<td>33.33%</td>
<td>0.471</td>
<td>1.000</td>
<td>.423</td>
</tr>
</tbody>
</table>

*p < .05, two-tailed. **p < .01, two-tailed.

As the results of the data analysis for the PE treatment is reported, it is important to bear in mind that the data for the PE treatment demonstrated that not all pictorial links were accessed. Of course, these actions, an indication of refusal of treatment, were considered when performing the data analysis of the results. The researcher analyzed a data set that included the scores by word of subjects refusing the PE treatment along side another data set that excluded the scores by word of subjects refusing the PE treatment. In the end, the researcher observed no change in significant findings for each word. The
researcher, therefore, listed the results of the data set that included the scores by word of subjects refusing the PE treatment.

As Tables 5 and 8 indicate, both treatments separately have a significant effect upon a participant’s ability to infer additional word senses. It would therefore be expected that an analysis of the combined results for both treatments would show the same significant findings as well. Indeed, Table 11 illustrates the significant gains for both RTE and PE treatments \( (p < .000) \). Due to excluded values, only 260 observations (out of the 348 in the data set) were used in this combined statistical analysis, which is the sum of the number of observations used in the RTE treatment analysis \( (n = 127) \) and the number of observations used in the PE treatment analysis \( (n = 133) \).

Table 11

*One-sample Test: RTE & PE treatments—PostI-Pre*

<table>
<thead>
<tr>
<th>Test</th>
<th>( t )</th>
<th>df</th>
<th>( p )</th>
<th>M Diff</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>PostI-Pre</td>
<td>10.343**</td>
<td>259</td>
<td>.000</td>
<td>0.292</td>
<td>( .237, .348 )</td>
</tr>
</tbody>
</table>

\*\*\( p < .01 \), two-tailed.

In addition, Table 12 points out the descriptive statistics of the results for the aggregate treatments, which demonstrate that, on average, either vocabulary learning treatment enabled the participants to increase their comprehension of additional word senses of target words by over 29\%, or 3.504 words out of 12.
Table 12

Descriptive Statistics: RTE & PE treatments—Pre, PostI, PostI-Pre

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>260</td>
<td>.000</td>
<td>.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>PostI</td>
<td>260</td>
<td>.000</td>
<td>1.000</td>
<td>0.292</td>
<td>0.456</td>
</tr>
<tr>
<td>PostI-Pre</td>
<td>260</td>
<td>.000</td>
<td>1.000</td>
<td>0.292</td>
<td>0.456</td>
</tr>
</tbody>
</table>

Research Hypothesis—Comparing the effects of the RTE and PE treatments upon inferring additional word senses

The third model was used to determine differences that exist between the effects of the RTE treatment versus the PE treatment upon a learner’s ability to infer additional senses of target words. The SPSS 13 statistical package was used to analyze the vocabulary gains between the VocPre and the PostI by conducting a Repeated Measures ANOVA. For this statistical analysis, there were a total number of 58 observations in this statistical analysis, which is the product of the number of subjects in the study (29) and the number of treatments (2).

Although all previous analyses indicated that vocabulary learning has occurred, Table 13 illustrates that there is no significant difference between treatments for inferring additional senses of target words ($p < .489$). Furthermore, results from the same table show that the difference in participants did not account for the difference in the results ($p < .828$). While data was gathered regarding the participants’ demographics (age, gender, L1, previous L2 learning experience, etc.) and perceived L2 learning style preferences, low participant numbers prohibited an ANOVA for the data gathered with respect to the effect of the treatments on vocabulary gains ($n = 29$).
Table 13

*Repeated Measures ANOVA: PostI-Pre*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>1</td>
<td>0.276</td>
<td>0.276</td>
<td>0.491</td>
<td>.489</td>
</tr>
<tr>
<td>Between Subjects</td>
<td>28</td>
<td>42.414</td>
<td>1.515</td>
<td>0.371</td>
<td>.828</td>
</tr>
<tr>
<td>Error</td>
<td>28</td>
<td>15.724</td>
<td>0.562</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>58.414</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Treatment = treatments offered to the participants (RTE or PE); Between Subjects = variance that exists between the participants in this study; Error = unknown variance that exists in this study; SS = mean sum of squared deviations of each group’s mean from the overall mean; MS = SS / df.

**Post-hoc Studies**

Current research in the area of vocabulary learning from reading contexts (Tinkham, 1993; McKeown, et al., 1985; Kachroo, 1962) indicates that it takes a learner between five and seven encounters of a word to acquire its meaning. The researcher was particularly interested in observing the ability of students learning French as an L2 at BYU to recall the original senses of the target words after receiving either treatment to observe if the findings of previous studies held true with these particular learners. It has been noted that students learning French as an L2 have been trained and encouraged by their instructors to acquire meanings of target words based on surrounding context, pictorial aids, and other vocabulary strategies other than native language translations.

To assess the effectiveness of these recommendations, the researcher performed two additional post-hoc analyses to determine the effect of the RTE and PE treatments
upon a learner’s ability to recall the original sense of the target words as encountered in the reading passage. Furthermore, the researcher used a third model to determine which treatment (RTE or PE) had a greater effect upon a learner’s ability to recall the original sense of the target words as encountering in the text.

As in the statistical analyses for the original research questions, the researcher used the SPSS 13 statistical package to perform a $t$ test in order to determine the statistical significance of the first two models listed below and to perform a Repeated Measures ANOVA to analyze the third model listed below.

**Statistical Analysis Models**

1. **Post-hoc Model 1:** The vocabulary gains between the scores of the VocPre and the portion of the immediate vocabulary recall test that determine the learner’s ability to recall the sense of the word as encountered in the reading passage (PostO) as measured by the results of both groups when subjected to the RTE treatment.

2. **Post-hoc Model 2:** The vocabulary gains between the scores of the VocPre and the PostO as measured by the results of both groups when subjected to the PE treatment.

3. **Post-hoc Model 3:** The difference between the vocabulary gains as measured by the results of both groups when subjected to the RTE treatment and the vocabulary gains as measured by the results of both groups when subjected to the PE treatment.
Results

Post-Hoc Model One—Recalling original word senses using the RTE treatment

Post-hoc Model 1 was used to determine the effect of the RTE treatment upon a learner’s ability to recall the original senses of the target words as presented in the reading passage. A t test was used to test for statistical significance of the vocabulary gains between the VocPre and the PostO. Like with the t test analyses used for the original research questions above, the researcher examined the effect of the RTE treatment upon the vocabulary gains as determined by the success of learning words unknown prior to treatment. Due to excluded values, only 127 observations (out of the 174 in the data set) were used in this statistical analysis.

As shown in Table 14, the RTE treatment had a statistically significant effect upon a participant’s ability to recall original senses of the target words ($p < .000$).

Table 14

One-sample Test: RTE treatment—PostO-Pre

<table>
<thead>
<tr>
<th>Test</th>
<th>$t$</th>
<th>df</th>
<th>$p$</th>
<th>M Diff</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>PostO-Pre</td>
<td>7.750**</td>
<td>126</td>
<td>.000</td>
<td>0.323</td>
<td>.240 to .405</td>
</tr>
</tbody>
</table>

*Note.* PostO = post-test score that determined a learner’s ability to recall the original sense of target words; Pre = vocabulary pretest score; M Diff = mean difference score between the PostO and the Pre; see also Table 14, Row PostO-Pre, Column $M$.

**$p < .01$, two-tailed.
Moreover, Table 15 presents the descriptive statistics of the first model, also indicating that on average, the RTE treatment enabled the participants to increase their understanding of the original target word senses as presented in the reading passage by over 32%, or on average 1.926 words out of 6.

Table 15

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>127</td>
<td>.000</td>
<td>.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>PostO</td>
<td>127</td>
<td>.000</td>
<td>1.000</td>
<td>0.321</td>
<td>0.469</td>
</tr>
<tr>
<td>PostO-Pre</td>
<td>127</td>
<td>.000</td>
<td>1.000</td>
<td>0.321</td>
<td>0.469</td>
</tr>
</tbody>
</table>

As before, in order to determine differences in the learning of various words, the researcher used a $t$ test to assess the effects of the RTE treatment upon a learner’s ability to recall original senses of each target. The analysis of the data from the results illustrate that the participants’ abilities to recall original word senses are dependant upon the target word. Table 16 illustrates that the participants using the RTE treatment were able to significantly recall original word senses for the target words “cruche,” “habits,” “haïr,” “pierre,” and “visage” where they were unable to do so with the other target words, specifically the target word “visage” where every participant successfully recalled its original sense after the receiving the RTE treatment.
Table 16

One-sample Test: RTE treatment by Word—PostO-Pre

<table>
<thead>
<tr>
<th>Target Word</th>
<th>N</th>
<th>Diff</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>bois</td>
<td>8</td>
<td>12.50%</td>
<td>0.331</td>
<td>1.000</td>
<td>.351</td>
</tr>
<tr>
<td>crapaud</td>
<td>7</td>
<td>42.86%</td>
<td>0.495</td>
<td>2.121</td>
<td>.078</td>
</tr>
<tr>
<td>cruche</td>
<td>13</td>
<td>53.85%</td>
<td>0.499</td>
<td>3.742**</td>
<td>.003</td>
</tr>
<tr>
<td>don</td>
<td>13</td>
<td>15.38%</td>
<td>0.361</td>
<td>1.477</td>
<td>.166</td>
</tr>
<tr>
<td>douceur</td>
<td>13</td>
<td>15.38%</td>
<td>0.361</td>
<td>1.477</td>
<td>.166</td>
</tr>
<tr>
<td>étonné</td>
<td>7</td>
<td>14.29%</td>
<td>0.350</td>
<td>1.000</td>
<td>.356</td>
</tr>
<tr>
<td>habits</td>
<td>8</td>
<td>62.50%</td>
<td>0.484</td>
<td>3.416*</td>
<td>.011</td>
</tr>
<tr>
<td>haïr</td>
<td>11</td>
<td>45.45%</td>
<td>0.498</td>
<td>2.887*</td>
<td>.016</td>
</tr>
<tr>
<td>pierre</td>
<td>13</td>
<td>46.15%</td>
<td>0.499</td>
<td>3.207**</td>
<td>.008</td>
</tr>
<tr>
<td>puiiser</td>
<td>15</td>
<td>20.00%</td>
<td>0.400</td>
<td>1.871</td>
<td>.082</td>
</tr>
<tr>
<td>soutenant</td>
<td>14</td>
<td>7.14%</td>
<td>0.258</td>
<td>1.000</td>
<td>.336</td>
</tr>
<tr>
<td>visage</td>
<td>5</td>
<td>100.00%</td>
<td>0.000</td>
<td>1.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

*p < .05, two-tailed. **p < .01, two-tailed.

Post-Hoc Model Two—Recalling original word senses using the PE treatment

The second post-hoc model was used to determine the effect of the PE treatment upon a learner’s ability to recall the original senses of the target words as encountered in the text. The vocabulary gains between the VocPre and the PostO was used as data for the computerized $t$ test analysis. As illustrated by all other previous $t$ test models, only the previously unknown words as indicated by the VocPre were used as data in the analysis.
of the effect of the PE treatment upon the vocabulary gains. Due to excluded cases, only
133 observations (out of the 174 in the data set) were used in this statistical analysis.

As illustrated in Table 17, the PE treatment also has a statistical significant effect
upon a participant’s ability recall the original senses of the target words ($p < .000$).

Table 17

*One-sample Test: PE treatment— PostO-Pre*

<table>
<thead>
<tr>
<th>Test</th>
<th>$t$</th>
<th>df</th>
<th>$p$</th>
<th>M Diff</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>PostO-Pre</td>
<td>8.078**</td>
<td>132</td>
<td>.000</td>
<td>0.331</td>
<td>.250 to .412</td>
</tr>
</tbody>
</table>

**$p < .01$, two-tailed**

Furthermore, Table 18 presents the descriptive statistics of Post-hoc Model 2, illustrating
that as a result of the PE treatment, the participants increased their knowledge of the
original senses of target words as encountered in the reading passage on average by over
33%, or 1.986 words out of 6.

Table 18

*Descriptive Statistics: PE treatment—Pre, PostO, PostO-Pre*

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>133</td>
<td>.000</td>
<td>.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>PostO</td>
<td>133</td>
<td>.000</td>
<td>1.000</td>
<td>0.331</td>
<td>0.472</td>
</tr>
<tr>
<td>PostO-Pre</td>
<td>133</td>
<td>.000</td>
<td>1.000</td>
<td>0.331</td>
<td>0.472</td>
</tr>
</tbody>
</table>
Again, the researcher used a $t$ test to assess the effects of the PE treatment upon a learner’s ability to recall original senses of each target word as presented in the text in order to determine differences in the learning of various words. Once more, the analysis of the data demonstrates that the learning outcome differed according to the target word. Table 19 illustrates that when the subjects were given the PE treatment, on the one hand, they could increasingly recall original word senses for the target words “crapaud,” “cruche,” “douceur,” “habits,” “haïr,” “pierre,” and “visage,” especially for the word “visage” where every subject who didn’t know the word before receiving the treatment was able to recall the original sense of the word. On the other hand, the PE treatment did not enable participants to recall the original sense of the word “bois.”
Table 19

_one-sample Test: PE treatment by Word—PostO-Pre_

<table>
<thead>
<tr>
<th>Target Word</th>
<th>N</th>
<th>Diff</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>bois</td>
<td>12</td>
<td>8.33%</td>
<td>0.276</td>
<td>1.000</td>
<td>.339</td>
</tr>
<tr>
<td>crapaud</td>
<td>10</td>
<td>50.00%</td>
<td>0.500</td>
<td>3.000*</td>
<td>.015</td>
</tr>
<tr>
<td>cruche</td>
<td>14</td>
<td>57.14%</td>
<td>0.495</td>
<td>4.163**</td>
<td>.001</td>
</tr>
<tr>
<td>don</td>
<td>13</td>
<td>23.08%</td>
<td>0.421</td>
<td>1.898</td>
<td>.082</td>
</tr>
<tr>
<td>douceur</td>
<td>11</td>
<td>36.36%</td>
<td>0.481</td>
<td>2.390*</td>
<td>.038</td>
</tr>
<tr>
<td>étonné</td>
<td>7</td>
<td>0.00%</td>
<td>0.000</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>habits</td>
<td>8</td>
<td>50.00%</td>
<td>0.500</td>
<td>2.646*</td>
<td>.033</td>
</tr>
<tr>
<td>haïr</td>
<td>12</td>
<td>41.67%</td>
<td>0.493</td>
<td>2.803*</td>
<td>.017</td>
</tr>
<tr>
<td>pierre</td>
<td>15</td>
<td>53.33%</td>
<td>0.499</td>
<td>4.000**</td>
<td>.001</td>
</tr>
<tr>
<td>puiiser</td>
<td>14</td>
<td>14.29%</td>
<td>0.350</td>
<td>1.473</td>
<td>.165</td>
</tr>
<tr>
<td>soutenant</td>
<td>14</td>
<td>7.14%</td>
<td>0.258</td>
<td>1.000</td>
<td>.336</td>
</tr>
<tr>
<td>visage</td>
<td>3</td>
<td>100.00%</td>
<td>0.000</td>
<td></td>
<td>.000</td>
</tr>
</tbody>
</table>

*p < .05, two-tailed. **p < .01, two-tailed

Finally, as illustrated in Tables 14 and 17, both treatments separately indicate a significant effect upon a participant’s ability to recall the original senses of the target words, it would be expected that the analysis of the collective results from both treatments would also show the same significant findings. Table 20 shows the significant gains for both RTE and PE treatments for the PostO (p < .000). Due to excluded values, only 260 observations (out of the 348 in the data set) were used in this combined statistical analysis.
Table 20

One-sample Test: RTE & PE treatments—PostO-Pre

Test Value = 0

<table>
<thead>
<tr>
<th>Test</th>
<th>t</th>
<th>df</th>
<th>p</th>
<th>M Diff</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>PostO-Pre</td>
<td>11.216**</td>
<td>259</td>
<td>.000</td>
<td>0.327</td>
<td>.270</td>
</tr>
</tbody>
</table>

**p < .01, two-tailed.

In addition, Table 21 displays the descriptive statistics of the results for the combined treatments, which illustrates that, on average, either vocabulary learning treatment enabled the participants to increase their understanding of the original target word senses as encountered in the text by close to 33%, or 3.924 words out of 12.

Table 21

Descriptive Statistics: RTE & PE treatments—Pre, PostO, and PostO-Pre

<table>
<thead>
<tr>
<th>Test</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>260</td>
<td>.000</td>
<td>.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>PostO</td>
<td>260</td>
<td>.000</td>
<td>1.000</td>
<td>0.327</td>
<td>0.470</td>
</tr>
<tr>
<td>PostO-Pre</td>
<td>260</td>
<td>.000</td>
<td>1.000</td>
<td>0.327</td>
<td>0.470</td>
</tr>
</tbody>
</table>

Post-Hoc Model Three—Comparing the effects of the RTE and PE treatments upon recalling original word senses

Post-hoc Model 3 was used to determine differences that exist between the effects of the RTE treatment versus the PE treatment upon a learner’s ability to recall the original sense of the target words. The SPSS 13 statistical package was used to analyze
the vocabulary gains between the VocPre and the PostO by performing a Repeated Measures ANOVA. There were a total number of 58 observations in this statistical analysis.

As observed with the previous RTE-PE Repeated Measures ANOVA, the data in Table 22 indicate that there is no significant difference between treatments for recalling the original target word senses \( (p < .708) \). It’s additionally important to note in that the difference in participants did not account for the difference in the results \( (p < .446) \).

Table 22

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>( F )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>1</td>
<td>0.155</td>
<td>0.155</td>
<td>0.143</td>
<td>.708</td>
</tr>
<tr>
<td>Between Subjects</td>
<td>28</td>
<td>25.931</td>
<td>0.926</td>
<td>0.855</td>
<td>.446</td>
</tr>
<tr>
<td>Error</td>
<td>28</td>
<td>30.345</td>
<td>1.084</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>56.431</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results from the study indicate that there is sufficient evidence for rejecting the first two null hypotheses. In other words, the data analyses suggest that vocabulary learning occurred as a result of the RTE and PE treatments as illustrated on both the sections of the immediate test of vocabulary recall. Moreover, the analyses of individual target words suggest that the treatments have greater effect of the learning of certain words over others. The results from this study did not, however, substantiate the need to reject the third null hypothesis. The data suggests that neither treatment is more effective for L2 learners to recall original word senses or to infer additional word senses.
CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Overview

For the last several decades, professionals in foreign language (L2) education in the United States have debated approaches and methods for effective L2 classroom instruction. L2 vocabulary development is one example that has fostered significant debates and research results in this particular area of L2 learning. Consistently, studies (Nation, 2001; Hauptman, 2000; Park, 2000; Liu & Nation, 1985; Omaggio, 1979, Bransford & Johnson, 1972) have indicated that there are several key factors that influence L2 vocabulary instruction; namely, background knowledge, text signaling (iconic and non-iconic cues), text language-level accessibility, and context.

Although this same body of literature has been widely accepted as support for various techniques for effective L2 vocabulary teaching, there is still some discussion regarding particular vocabulary learning techniques. Furthermore, the vast majority of research in this area has only investigated the learner’s ability to demonstrate partial word acquisition by investigating the learner’s ability to recall or produce target words according to the context in which the learner encountered the new words.

Addressing this limitation, this study attempted to determine the effect of repeated encounters of target words embedded in the context of a reading passage as well as a single encounter of target words embedded in the context of a reading passage supplemented with a pictorial gloss upon a learner’s ability to infer additional senses of target words. More precisely, this study attempted to determine the effects of these two treatments upon a learner’s ability to rename L1 concepts with L2 labels. Furthermore, this research attempted to determine which of these two vocabulary development
methods is more effective for inferring additional senses of target words. The results from this study at least partially answer Read’s (2000) call for more empirical research to determine the effects of various pedagogical techniques upon vocabulary acquisition, specifically in relation to the L2 learner’s ability to infer new or additional meanings of target words in context. In addition, the results from this study can allow instructional designers of L2 learning textbooks to make informed decisions regarding the role of repeated encounters of words and single encounters of words supplemented with pictorial glosses for L2 vocabulary instruction.

Conducted at Brigham Young University (BYU) in Provo, Utah, during Winter Semester 2005, this study involved 29 subjects who were enrolled in a second semester French course (French 102) and who voluntarily participated. As the subjects reported to the designated computer labs, lab assistants logged the subjects onto the Web site set up for the experiment that was conducted online. Once the participant had logged in, the Web-based (WB) program randomly assigned each person to one of two groups. Although both groups received both vocabulary learning techniques, each group received the techniques for different target words. Group A received the Repeated Textual Encounter (RTE) technique for words 1-6 and the Pictorial Encounter (PE) technique for words 7-12. Group B, on the other hand, received the PE technique for words 1-6 and the RTE technique for words 7-12. This grouping illustrates how the words were presented rather than the order in which the words were presented.

Prior to experiencing the treatments, the participants completed one questionnaire to record subject demographics and another, developed by Reid (1984), to record perceived L2 learning style preferences. Next, the subjects completed a vocabulary
pretest which determined their previous knowledge of each target word as a means of informing the researcher as to which words were unknown before the study. Once the questionnaires and pretest were complete, the participants read the text all while being subjected to the RTE and PE treatments.

Immediately after reading the passage, the participants completed two post-tests. The first post-test was designed to test the subjects’ comprehension of the reading passage to focus the subjects’ attention on reading comprehension rather than vocabulary acquisition. The rationale for this post-test is based on Hulstijn’s (1992) research, which indicated that if learners are informed that a particular study centers on vocabulary development rather than on other measures such as reading comprehension, the learners will likely pay conscious attention to the target words and, in many cases, they may even encounter the words more than the desired number given the vocabulary learning treatments. At the beginning of the study, the participants were, therefore, informed that the study’s purpose was to investigate second language learning in French reading contexts, and the researcher found no need to analyze the data gathered from the reading comprehension post-test.

Following the first post-test, the subjects completed the second post-test—an immediate measure of vocabulary recall—where they were tested on two senses of the target words: 1) the original sense of the word as encountered in the reading passage; and 2) an additional sense of the word that had not yet been introduced to the participants. The researcher gathered data regarding the subjects’ ability to infer additional word senses and recall original senses of the target words through a multiple-choice test with
six options; five plausible answers with a sixth option indicating that the participant did not know the answer (i.e., Je ne sais pas. (I don’t know)).

**Summary of the Findings**

This study addressed the following research questions:

1) What is the effect of repetitive encounters of target words in context upon the L2 learner’s ability to infer additional target word senses as measured by the learner’s performance on an immediate test of vocabulary recall?

2) What is the effect of pictorial glosses that supplement target words in context upon the L2 learner’s ability to infer additional target word senses as measured by the learner’s performance on an immediate test of vocabulary recall?

3) Which vocabulary learning technique (i.e., the RTE or PE technique) has greater effect upon the L2 learner’s ability to infer additional target word senses as measured by the learner’s performance on an immediate test of vocabulary recall?

The results from this study indicate that both the RTE and the PE vocabulary development techniques enable learners to infer additional word senses. Moreover, both techniques have a significant affect upon inferring additional senses of certain words over others. Additional post-hoc analyses of the effects of the RTE and PE techniques upon the learner’s ability to recall original word senses also support the notion that vocabulary development transpired. The results from both sections of the immediate test of vocabulary recall (e.g., PostI and PostO), therefore, provide evidence for the impact of two encounters of a word upon the ability of L2 learners to rename L1 concepts with L2
labels, indicating whole-word, rather than just partial-word, acquisition. Furthermore, results from individual word analysis strengthen the indications that whole-word learning occurs after two encounters for certain words.

Other data analysis, on the other hand, shows that neither the RTE nor the PE technique is more effective than the other for L2 learners to recall original word senses or to infer additional word senses. These results suggest that a picture does not instantiate a more robust meaning than text alone. With respect to learning styles, due to low participant numbers (n = 29), the researcher was not able to determine which perceived learning style preferences had greater effect on the ability of learners to acquire the meanings of words.

**Limitations of the Study**

There were several limitations of this study. One, while the study used pictorial glosses as an L2 vocabulary learning technique, the types of images used in this study were sometimes less than ideal. Although the French native who rated the selected images as illustrating the intended meaning, some images portrayed a less robust sense of the word than others. As discussed in Chapter 3, the image selected to portray the sense of the word “puiser” (*to draw [water]*) illustrated a more neutral sense of the word as encountered in the reading passage. The more neutral illustration of the word’s sense may have affected the participant’s ability to perform on the immediate test of vocabulary recall.

The environment within which the study was conducted is another limitation because it did not offer the participants an opportunity to request clarification of the pictorial glosses’ intended portrayed meaning or the meaning of the word according to
the context of the text. In this respect, the classroom setting offers a more ideal learning environment. In the classroom, teachers can encourage learners to ask questions and can immediately clear up any ambiguity of meaning.

An additional limitation is the lack of choice in the words that could be used in the study. Before selecting the target words, the researcher had to consider several criteria. First, the researcher had to select a reading passage that was an authentic representation of the French language and the culture of those who speak the language—making it possible for participants to receive credit for two cultural activities for the semester. Next, the researcher selected a text based on the participants’ language-level abilities (Hauptman, 2000). Several empirical studies have emphasized the need for learners to understand at least 95% of the running text (Nation, 2001; Carver, 1994; Laufer, 1989; Liu & Nation, 1985). Finally, the researcher ensured that the target words only appeared the proper number of times according to treatment. For the RTE treatment, the words could only appear twice in the text. For the PE treatment, the words could only appear once in the text. These criteria narrowed the scope of possible target words available for selection, which may account for the high number previously known words, as determined by the vocabulary pretest. As a result, these words could not be used in the analyses.

Another limitation for this study became apparent as the researcher attempted to differentiate between the various word senses needed to test this study’s hypotheses. For example, the target word “haïr” (to hate) appeared in the reading passage within the context of being a reason for kicking someone out of the house (e.g., Pour sa sœur, tout le monde la haïssait tellement que sa mère l’a chassée de chez elle.; As for her sister,
everyone hated her so much that her mother chased her from the house.). This sense of “haïr” is very closely related to the sense of the word as tested on the portion of the post-test that examined the participant’s ability to infer additional word senses—a result of a negative experience in a family setting (Je haïs mon père parce qu’il bat ma mère.; I hate my father because he beats my mother.). The two senses for this particular target word, although described as separate, may be so closely related that the differences aren’t distinct enough to be considered separate senses. As an illustration of this example, it proved especially difficult to display an image that depicted the sense of the word according to the context encountered in the text and not the inferring context of the post-test. In attempt to maintain some control over this extraneous variable, however, the researcher had a French native compare the inferred word sense in the post-test with the originating word sense from the text. In the cases where the French native rated the target word sense in the reading passage as the same as the target word sense in the portion of the post-test that examined the participant’s ability to infer additional word senses, the researcher and the French native developed a context for the target words illustrating a different word sense from that of the reading passage to be used in the immediate test of vocabulary recall.

The manner in which the participants received the RTE and PE treatments is yet another limitation that must be considered. The participants were instructed to click on every link as they read the text in order to display the appropriate target word gloss, thus enabling them to receive the PE treatment. Because the software used in the experiment recorded every mouse click enacted by the participants, it was possible to determine which pictorial glosses were accessed by the participants. A review of the data
demonstrated that not all pictorial links were accessed. Of course, these actions, an
indication of refusal of treatment, were considered when performing the data analysis of
the results. Since there was no change of significance for the results when the researcher
included those words for which the subjects refused treatment and when he excluded
those words for which the subjects refused treatment, the researcher, therefore, listed the
results of the data set that included the scores by word of subjects refusing the PE
treatment.

Another limitation that may be considered is the subjects themselves. The subjects
used in this study have been trained and highly encouraged to infer meanings of target
words using a technique similar to that of the RTE treatment for over a semester, yet have
never been introduced to a vocabulary development technique similar to the PE treatment
prior to this study. As a result, the subject’s training, or lack thereof, may have influenced
some of the outcomes of this study; in particular, the results determining the differences
between the RTE and PE treatments upon the learner’s ability to infer additional words
senses and recall original senses of target words.

Finally, it should be noted that the requirements of the Human Subjects Review
Committee for conducting research akin to this study require that the researcher can only
use subjects who voluntarily offer their time to participate in the study. As a result, the
number of observations was lower than would have been desired, due to the fact that
there were only 29 participants out of a possible 92. To adjust for such low participant
numbers, the researcher analyzed the data according to the number of participants
multiplied by the number of words per treatment. This calculation enabled the researcher
to substantially increase the number of observations.
Implications of the Study

From this study we observe that both vocabulary development treatments used in this study enable learners to infer additional word senses; or in other words, rename certain L1 concepts with L2 labels. In addition, we observe that learners are able to infer additional senses and recall original senses for certain words over others after only two encounters. These results suggest that L2 vocabulary acquisition is influenced when learners read texts in the target language that are supplemented with vocabulary development techniques such as the RTE and PE techniques. Furthermore, findings from the current research imply that when learners acquire one sense of a target word—words with meanings that easily transfer between the L1 and the L2—they also acquire other target word senses.

Recommendations for Future Research

In this study, the researcher investigated the effects of various exposures to new vocabulary in terms of repeated encounters of words in passages as well as pictorial glosses that illustrate word meanings upon a learner’s ability to recall original senses and infer additional senses of target words. The results indicate that more research must be conducted to determine the effects of various pedagogical techniques upon vocabulary acquisition, specifically in relation to the L2 learner’s ability to infer new or additional meanings of target words in context.

For example, it would be interesting to conduct replications of this study at other education institutions and at other educational levels (e.g., elementary and secondary education). Specifically, to do so with learners acquiring additional foreign languages where learners have not been previously trained to use either of the two vocabulary
learning techniques used in the current study would increase the likelihood that
differences in the two methods would be observed. Furthermore, it would be intriguing to
examine the effects of the treatments described in this study in conjunction with the
effects of other iconic and non-iconic cues such as diagrams, graphs, charts, and wording
of titles (Hauptman, 2000) upon a learner’s ability to infer additional words senses.
Studies that observe effects of these other cues upon vocabulary development would give
instructional designers of L2 textbooks and teachers alike the ability to vary the L2
instruction with respect to learning the meanings of new words.

Although the results from this study seem to contradict the findings of other
studies (Tinkham, 1993; McKeown, et al., 1985; Kachroo, 1962) that indicate that, on
average, a learner must encounter a word between five and seven times before knowing a
word, the results also indicated that after two encounters the learners were only able to
infer senses of certain target words over others. It would be interesting to compare results
of this study with similar studies conducted at other institutions. In addition, other studies
could investigate differences between learners acquiring senses of words that represent
old concepts with words that represent new concepts since most pictorial words are “old”
concepts needing new L2 labels. Such a comparison would either confirm the need for
learners to encounter target words as few as two times or confirm previous findings.

It would also be intriguing to redesign the vocabulary pretest and post-test. For
example, since the participants in this study acquired meanings of words while using a
reading passage, it would seem relevant to design the vocabulary pretest and post-test in
the context of a story as well. Stated another way, since the participants initially
encountered the target words through reading a story, it would seem logical to test them
using the same scheme. Moreover, it would be advantageous to include unknown items on the vocabulary pretest as well as on the post-test that would not be encountered in the reading passage. These items would serve as a control for the target words receiving the RTE treatment. Finally, it could be useful to pilot-test the pretest and post-test items on other students rather than on relying on experienced instructor knowledge to determine what the subjects do and do not know.

Low participation, also considered as a limitation for this study, is another area of consideration. Greater numbers of participation may bring about different results than obtained in this study. To improve increased participation in future studies, researchers should consider other methods of rewards in exchange for encouraging participation. For example, researchers could provide financial rewards to subjects for their participation, thus providing incentives not available in the current study.

The final research recommendation is related to the notion of salience of the surrounding context for the target words and the concreteness of the target word senses. Although the researcher had a French native rate the target words in this regard as well as the concreteness of its senses, these evaluations were only used to ensure that the words in each treatment had roughly the same characteristics, and that neither treatment was loaded with one type of word over the other treatment. Nevertheless, the analyses of individual target words suggest that the RTE and PE treatments have greater effect of the learning of certain words over others. Indeed, Paivio’s (1986) research indicates that pictures enable learners to acquire meanings of words that are more concrete than abstract. In addition, research conducted by Mondria and Wit-de Boer (1991) suggest that salient factors play a significant role in learners inferring additional word senses. Future
studies should investigate how salience and concreteness interact with the PE and RTE
treatments.
LIST OF REFERENCES


Laufer, B. (1989). What percentage of text-lexis is essential for comprehension?. In C. Laurén & M. Nordman (Eds.), *Special Language: From Humans Thinking to Thinking Machines* (pp. 316-323). Philadelphia: Multilingual Matters LTD.


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Appendix A

Consent to Be a Research Subject

The purpose of this research study is to investigate second language learning in French reading contexts. Mike Hilmo, a BYU graduate student in Language Acquisition and Teaching is conducting this study.

You have been selected to participate in this research study because of your level of French study. You will be asked to do the following activities: 1) complete a questionnaire regarding your age, gender, current educational status, native language, previous second/foreign language experience, and learning style preference; 2) complete a pretest; 3) read a French reading passage; and 4) complete post-tests. The entire procedure should require approximately 90 minutes of your time. In return for your participation, you will receive credit for two cultural activities in your French 102 class.

Your participation in this study is completely voluntary, and you may refuse or withdraw at any time without penalty other than not receiving credit for two cultural activities in your French 102 class. There are no known risks or benefits associated with participation in this study. In addition, there will be no reference to your identification at any point in the research.

If you have any questions regarding this research project, you may contact Mike Hilmo, Development, Missionary Training Center, Provo, UT, 84604; phone, (801) 422-6982; email, hilmoms@mtc.byu.edu.

If you have any questions regarding your rights as a participant in a research study, you may contact Dr. Shane S. Schulthies, Chair of the Institutional Review Board, 120B RB, Brigham Young University, Provo, UT 84602; phone, (801) 422-5490.

Continuing on with the online questionnaire is your consent to participate in this research. Thank you for your participation.

Mike Hilmo
Master’s candidate
Language Acquisition and Teaching
Brigham Young University

I agree  I disagree
Appendix B

Questionnaire: Part 1

Personal

1. What is your age? _____

2. What is your gender? ___ male   ___ female

3. What is your educational status (not including this semester)? Circle the status that most describes you.
   Freshman   Sophomore   Junior   Senior   Graduate

4. What is your native language? ___ English   ___ Other
   If other, write your native language. _______________

French Language Experience

5. Have you had any formal education in French (classroom)? Yes / No

   If yes, please indicate all that apply.
   If no, please skip to question 6.

   Grades K-6 (Elementary):
   1 semester   2 semesters   3 semesters   4 semesters   5+ semesters

   Grades 7-9 (Middle school/Jr. High):
   1 semester   2 semesters   3 semesters   4 semesters   5+ semesters

   Grades 10-12 (High school):
   1 semester   2 semesters   3 semesters   4 semesters   5+ semesters

   Grades 13+ (College/university, not including this semester):
   1 semester   2 semesters   3 semesters   4 semesters   5+ semesters
6. Have you had any informal education in French (French-speaking country residence)?
Yes / No

*If yes, please specify which country and the amount of time spent in the country.*
*If no, please skip to question 7.*

Country:

<table>
<thead>
<tr>
<th>Country</th>
<th>France</th>
<th>Belgium</th>
<th>Switzerland</th>
<th>Canada</th>
<th>Tahiti</th>
</tr>
</thead>
</table>

Time:

<table>
<thead>
<tr>
<th>Time</th>
<th>1-4 weeks</th>
<th>1-6 months</th>
<th>6-12 months</th>
<th>1-2 years</th>
<th>2+ years</th>
</tr>
</thead>
</table>

**Other Second Language Experience**

7. Have you had any other second language experience? Yes / No

*If yes, please indicate all that apply.*
*If no, please submit this questionnaire by clicking on the Submit button below.*

**Language**

___ Spanish

Formal education (classroom):

<table>
<thead>
<tr>
<th>1 semester</th>
<th>2 semesters</th>
<th>3 semesters</th>
<th>4 semesters</th>
<th>5+ semesters</th>
</tr>
</thead>
</table>

Informal education (residence in country):

<table>
<thead>
<tr>
<th>1-4 weeks</th>
<th>1-6 months</th>
<th>6-12 months</th>
<th>1-2 years</th>
<th>2+ years</th>
</tr>
</thead>
</table>

___ Portuguese

Formal education (classroom):

<table>
<thead>
<tr>
<th>1 semester</th>
<th>2 semesters</th>
<th>3 semesters</th>
<th>4 semesters</th>
<th>5+ semesters</th>
</tr>
</thead>
</table>

Informal education (residence in country):

<table>
<thead>
<tr>
<th>1-4 weeks</th>
<th>1-6 months</th>
<th>6-12 months</th>
<th>1-2 years</th>
<th>2+ years</th>
</tr>
</thead>
</table>
___ Italian

Formal education (classroom):

<table>
<thead>
<tr>
<th></th>
<th>1 semester</th>
<th>2 semesters</th>
<th>3 semesters</th>
<th>4 semesters</th>
<th>5+ semesters</th>
</tr>
</thead>
</table>

Informal education (residence in country):

<table>
<thead>
<tr>
<th></th>
<th>1-4 weeks</th>
<th>1-6 months</th>
<th>6-12 months</th>
<th>1-2 years</th>
<th>2+ years</th>
</tr>
</thead>
</table>

___ Other

Language: _______________

Formal education (classroom):

<table>
<thead>
<tr>
<th></th>
<th>1 semester</th>
<th>2 semesters</th>
<th>3 semesters</th>
<th>4 semesters</th>
<th>5+ semesters</th>
</tr>
</thead>
</table>

Informal education (residence in country):

<table>
<thead>
<tr>
<th></th>
<th>1-4 weeks</th>
<th>1-6 months</th>
<th>6-12 months</th>
<th>1-2 years</th>
<th>2+ years</th>
</tr>
</thead>
</table>

Thank you for completing the first part of the questionnaire. To submit your answers and to continue with the second part of the questionnaire regarding second/foreign language learning style preferences, please click on the Submit button below.

Submit
Appendix C

Questionnaire: Part 2

Perceptual Learning Style Preference Questionnaire
(Joy Reid, 1984)

Introduction
People learn in many different ways. For example, some people learn primarily with their eyes (visual learners) or with their ears (auditory learners); some people prefer to learn by experience and/or by “hands-on” tasks (kinesthetic or tactile learners); some people learn better when they work alone while others prefer to learn in groups.

This questionnaire has been designed to help identify the way(s) you learn best—the way(s) you prefer to learn.

Directions
1. Read each statement below.
2. Please respond to the statements AS THEY APPLY TO YOUR STUDY OF FOREIGN LANGUAGES.
3. Please respond to the statements AS THEY APPLY TO YOUR STUDY OF FOREIGN LANGUAGES.

<table>
<thead>
<tr>
<th>X</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>Undecided</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
</tr>
<tr>
<td></td>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

4. Please respond to each statement quickly, without too much thought.
5. Try not to change your responses after you choose them.
6. Please answer all the questions

1. When the teacher tells me the instructions I understand better.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
</tr>
<tr>
<td>Undecided</td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>
2. I prefer to learn by doing something in class.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

3. I get more work done when I work with others.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

4. I learn more when I study with a group.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

5. In class, I learn best when I work with others.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

6. I learn better by reading what the teacher writes on the chalkboard.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>
7. When someone tells me how to do something in class, I learn it better.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

8. When I do things in class, I learn better.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

9. I remember things I have heard in class better than things I have read.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

10. When I read instructions, I remember them better.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

11. I learn more when I can make a model of something.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>
12. I understand better when I read instructions.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

13. When I study alone, I remember things better.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

14. I learn more when I make something for a class project.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

15. I enjoy learning in class by doing experiments.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

16. I learn better when I make drawings as I study.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>
17. I learn better in class when the teacher gives a lecture.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

18. When I work alone, I learn better.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

19. I understand things better in class when I participate in role-playing.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

20. I learn better in class when I listen to someone.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

21. I enjoy working on an assignment with two or three classmates.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>
22. When I build something, I remember what I have learned better.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
</tr>
<tr>
<td>Undecided</td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

23. I prefer to study with others.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
</tr>
<tr>
<td>Undecided</td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

24. I learn better by reading than by listening to someone.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
</tr>
<tr>
<td>Undecided</td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

25. I enjoy making something for a class project.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
</tr>
<tr>
<td>Undecided</td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

26. I learn best in class when I can participate in related activities.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
</tr>
<tr>
<td>Undecided</td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>
27. In class, I work better when I work alone.

| Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |

28. I prefer working on projects by myself.

| Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |

29. I learn more by reading textbooks than by listening to lectures.

| Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |

30. I prefer to work by myself.

| Strongly Agree | Agree | Undecided | Disagree | Strongly Disagree |

Thank you for completing both parts of this questionnaire. To continue with the French language experience, please click on the Submit button below.

Submit
Appendix D

Vocabulary Pretest

1. Quand on n’avait plus d’électricité à cause du mauvais temps, on n’avait que des _____ pour avoir de la lumière.
   a. éclairs
   b. bougies
   c. lustres
   d. ampoules
   e. lampes
   f. Je ne sais pas

2. C’était toujours le rêve de ma sœur de vouloir danser toute la soirée avec un prince au _____.
   a. balle
   b. concert
   c. cinéma
   d. bal
   e. parc
   f. Je ne sais pas

3. Quand je reste à l’hôtel, je demande une chambre avec douche et _____ parce j’aime bien avoir le choix de prendre une douche ou un bain.
   a. baignoire
   b. piscine
   c. W.C.
   d. salle de bains
   e. toilettes
   f. Je ne sais pas

4. Au bal, tout le monde avait l’impression que nous étions nobles parce que nous avions les _____ d’un prince ou d’une princesse.
   a. couvertures
   b. habits
   c. tissus
   d. complets
   e. tailleurs
   f. Je ne sais pas

5. Quand j’étais petit, on n’avait pas de _____ . On devait aller chez mon ami pour nager.
   a. lac
   b. mare
   c. mer
   d. flaque
   e. piscine
   f. Je ne sais pas

6. La marraine de Cendrillon lui offre un _____ : une magnifique robe de soirée pour danser avec le prince du royaume.
   a. lettre
   b. don
   c. récompense
   d. talent
   e. contribution
   f. Je ne sais pas

7. Quand j’avais 4 ou 5 ans, je suis allé voir le Père Noël, et à cette époque-là, je ne pouvais pas arrêter de _____ parce que j’avais peur du Père Noël.
   a. pleurer
   b. parler
   c. écrire
   d. rier
   e. rigoler
   f. Je ne sais pas
8. Le bûcheron est sorti du _____ après une longue journée de travail.
   a. champs  
   b. terrain  
   c. domaine  
   d. moulin  
   e. bois  
   f. Je ne sais pas

9. La méchante belle-mère, qui se voulait de la haute société, a chassé sa fille Danielle de la maison parce que la mère _____ ses mauvaises manières à table.
   a. tolérait  
   b. taquinait  
   c. questionnait  
   d. rapportait  
   e. haïssait  
   f. Je ne sais pas

10. Mes deux frères se ressemblent tant de _____ que tout le monde pense qu’ils sont jumeaux.
    a. personnalité  
    b. conduite  
    c. visage  
    d. comportement  
    e. caractère  
    f. Je ne sais pas

11. Avant de faire une promenade à pied, Matthieu a dû _____ assez d’eau de la fontaine pour remplir sa gourde.
    a. puiser  
    b. chercher  
    c. apporter  
    d. trouver  
    e. attraper  
    f. Je ne sais pas

12. Ma mère me demande toujours de _____ ma chambre avant de sortir avec mes copains.
    a. remettre  
    b. salir  
    c. tâcher  
    d. laver  
    e. ranger  
    f. Je ne sais pas

13. Le soir de Halloween, les sorcières utilisent des serpents, des lézards et des _____ comme ingrédients pour faire leurs potions.
    a. huîtres  
    b. oiseaux  
    c. lions  
    d. crapauds  
    e. giraffes  
    f. Je ne sais pas

14. Mes frères sont tous les deux mariés. Ma sœur, par contre, est toujours _____.
    On lui dit qu’un jour elle va trouver son « prince charmant ».
    a. individuel  
    b. célibataire  
    c. unique  
    d. optimiste  
    e. pessimiste  
    f. Je ne sais pas

15. Tout le monde adore immédiatement cette fille à cause de sa _____.
    a. dureté  
    b. souffrance  
    c. douceur  
    d. colère  
    e. laideur  
    f. Je ne sais pas
16. Puisqu’il n’y avait pas d’eau fraîche à la maison, ma grand-mère devait remplir une grande _____ à une fontaine près de la maison.
   a. casseroles
   b. poêle
   c. piscine
   d. tasse
   e. cruche
   f. Je ne sais pas

17. Quand j’étais petit, mon meilleur ami et moi, nous nous amusions beaucoup tous les jours après l’école quand nous nous racontions des _____ que nous avions entendu(e)s pendant la journée.
   a. livres
   b. blagues
   c. épipées
   d. contes
   e. mensonges
   f. Je ne sais pas

18. La mère du garçon délinquant était complètement _____ de voir les bonnes notes de son fils sur son relevé de notes de fin d’année scolaire.
   a. dégoûtée
   b. fâchée
   c. étonnée
   d. triste
   e. belle
   f. Je ne sais pas

   a. bagues
   b. cuillères
   c. pierres
   d. poussière
   e. roches
   f. Je ne sais pas

20. Pendant toute la journée, la petite fille de cinq ans jouait avec sa nouvelle _____ que ses parents lui avaient donné comme cadeau d’anniversaire.
   a. voiture
   b. poche
   c. robe
   d. bague
   e. poupée
   f. Je ne sais pas

21. En _____ la toiture, les poutres de la maison permettent une meilleure protection contre les éléments naturels.
   a. faisant
   b. aidant
   c. poussant
   d. soutenant
   e. jetant
   f. Je ne sais pas

22. Dans la classe de ma nièce de dix ans, l’élève qui répond correctement le plus rapidement possible est choisi comme le roi ou la _____ du jour.
   a. reine
   b. princesse
   c. paysane
   d. comtesse
   e. sorcière
   f. Je ne sais pas
Appendix E

Reading Passage Introduction

You are about to commence the reading passage, a French fairy tale entitled *Les fées* by Charles Perrault, after which you will complete a reading comprehension post-test. You should only read the text once. Once you commence the reading comprehension post-test you will not be able to return to the reading passage. Therefore, it is important that you read thoroughly.

The next web page will display an example reading passage that will introduce you to the various link functions particular to this Web-Based program of which you should be aware before beginning *Les fées* reading passage. You will notice that as you read the example passage and *Les fées*, there will be two types of items highlighted: 1) Words that are linked to word glosses in French or English; and 2) Words that are linked to pictorial glosses. The items linked to word glosses will be underlined and will be accompanied by a little bubble (°) afterwards. The items linked to pictorial glosses will only be underlined. These link functions will help you better understand *Les fées*.

When you use your computer mouse to click on these items, the appropriate gloss will be displayed on the right-hand side of the screen. The word glosses will be found in the upper right-hand section and the pictorial glosses will be found in the lower right-hand section. Please be sure to click on every highlighted item to ensure that you completely understand the text. Thank you.

When you are ready to view the example reading passage, click on the Example passage link below.

Example passage
Appendix F

Reading Comprehension Post-test

1. *Les fées* is a fairy tale that tells the story of _____.
   a. two girls who share their toys with other unfortunate children
   b. two boys who get into a lot of trouble by setting fire to the house
   c. a girl and a boy who find money in a wishing well
   d. a nice girl who helps another and a rude girl who doesn’t

2. The oldest daughter most resembled her _____.
   a. younger sister
   b. mother
   c. father
   d. older brother

3. When the youngest daughter helped the fairy, the fairy blessed her with _____.
   a. kind parents
   b. gold and silver
   c. pearls and diamonds
   d. her own kingdom

4. In the very end, the youngest daughter _____.
   a. married a prince
   b. found a sack of gold
   c. died alone in the forest
   d. was kicked out of the house

5. What general lesson introduced in the fairy tale, *Les fées*, is most applicable to today’s society?
   a. Never go to the water well alone.
   b. Never talk to strangers.
   c. Always help others who are less fortunate.
   d. Always listen to your parents.
Appendix G

Vocabulary Post-test

1. L’université reçoit beaucoup de _____ de grandes entreprises pour financer des programmes de maîtrise à l’université.
   a. cadeaux  
   b. pierres  
   c. habits  
   d. récompenses  
   e. dons  
   f. Je ne sais pas

2. Les hivers commencent à être difficiles pour les animaux sauvages quand ils sortent du _____ pour chercher de la nourriture dans des villes voisines.
   a. bois  
   b. désert  
   c. terrain  
   d. logis  
   e. pays  
   f. Je ne sais pas

3. Avant l’invention de l’eau courante à la maison, mes grands-parents devaient _____ de l’eau à la fontaine près de la maison.
   a. trouver  
   b. verser  
   c. puiser  
   d. remplir  
   e. réaliser  
   f. Je ne sais pas

4. Puisque la jeune fille n’avait pas pu arrêter de mentir, la sorcière l’a maudite; alors, quand la jeune fille parlait il y avait des _____ qui sortaient de sa bouche.
   a. bijoux  
   b. crapauds  
   c. diamants  
   d. rochers  
   e. habits  
   f. Je ne sais pas

5. Je/J’ _____ les haricots verts alors je les ai jetés à la poubelle.
   a. tolère  
   b. puise  
   c. trouble  
   d. hais  
   e. accuse  
   f. Je ne sais pas

6. J’aime toutes les _____ précieuses, mais je préfère les rubis et les diamants.
   a. pierres  
   b. fleurs  
   c. plantes  
   d. cruches  
   e. roches  
   f. Je ne sais pas

7. Ma camarade de chambre est renommée pour son(sa) _____ parce qu’elle est calme et gentille avec tout le monde.
   a. cruche  
   b. douceur  
   c. amour  
   d. timidité  
   e. générosité  
   f. Je ne sais pas
8 Avant d’accrocher le tableau sur le mur du salon, Jean a aidé sa sœur, Carole, en _____ la peinture pendant qu’elle regardait le placement du tableau sur le mur pour la dernière fois.
   a. grondant  d. soutenant
   b. plaçant e. gardant
   c. faisant f. Je ne sais pas

9 Avant la naissance de mes grands-parents, les hommes étaient responsables du jardinage alors que les femmes étaient responsables de faire la cuisine, le ménage, et aussi de chercher de l’eau avec une grande _____ à une fontaine loin de la maison.
   a. tasse  d. poêle
   b. pierre e. cruche
   c. coupe f. Je ne sais pas

10 Les petites filles adorent mettre les _____ d’une princesse pour imaginer qu’un prince va les délivrer d’un méchant dragon.
   a. dons  d. pierres
   b. habits e. tissus
   c. complets f. Je ne sais pas

11 Jean-Luc était très _____ devant son billet de loterie qui allait lui donner assez d’argent pour payer toutes ses dettes.
   a. tué  d. étonné
   b. honnête e. fâché
   c. optimiste f. Je ne sais pas

12 Le petit garçon ressemblait à son père de/d’ _____ mais ressemblait à sa mère par sa personnalité.
   a. haïr  d. caractère
   b. âge e. visage
   c. humeur f. Je ne sais pas

13 J’adore l’histoire de David et Goliath dans la Bible parce que David a tué le géant avec une toute petite _____.
   a. roche  d. cruche
   b. fleur e. perle
   c. pierre f. Je ne sais pas

14 Puisque la famille était si pauvre, chaque soir la mère devait laver les seuls _____ que sa fille avait dans sa garde-robe pour avoir quelque chose à porter le lendemain à l’école.
   a. habits  d. bijoux
   b. visages e. tailleurs
   c. complets f. Je ne sais pas
15 Je/J’ _____ mon père parce qu’il bat ma mère.
   a. aime   d. hais
   b. tolère   e. accuse
   c. soutiens   f. Je ne sais pas

16 J’étais complètement _____ quand ma mère m’a dit que mon père était à l’hôpital
   à cause d’une crise cardiaque parce qu’il n’a jamais eu de problèmes de santé.
   a. orgueilleuse   d. bête
   b. étonnée   e. contente
   c. individualiste   f. Je ne sais pas

17 On a cherché la fille perdue dans le _____ pendant des jours.
   a. logis   d. champs
   b. bois   e. terrain
   c. flacon   f. Je ne sais pas

18 Tous les enfants ont ri quand ils ont entendu le grand croassement qui venait du _____
   dans la poche du pantalon du petit garçon.
   a. crapaud   d. lézard
   b. serpent   e. bois
   c. sifflet   f. Je ne sais pas

19 On pouvait voir la douleur de Marc dans l’expression de son _____.
   a. nez   d. visage
   b. cou   e. semblable
   c. bras   f. Je ne sais pas

20 J’aime bien cette _____-là parce que je peux servir de l’eau à huit personnes à la fois.
   a. tasse   d. assiette
   b. fontaine   e. formation
   c. cruche   f. Je ne sais pas

21 Les enfants préfèrent les couvertures en coton parce qu’ils aiment la _____ de ce tissu.
   a. cadette   d. considération
   b. sympathie   e. serviabilité
   c. douceur   f. Je ne sais pas

22 Ma mère est bien reconnaissante des _____ qu’elle a reçus pendant sa vie, en particulier le pouvoir de pressentir les situations dangereuses.
   a. dons   d. miracles
   b. habits   e. avantages
   c. cadeau   f. Je ne sais pas
23 Mon père a montré son affection pour ma mère en la _____ pendant des mois après la mort de sa sœur.
   a. grondant  
   b. soutenant  
   c. parlant  
   d. courant  
   e. pleurant  
   f. Je ne sais pas

24 Lors de situations difficiles, je peux toujours _____ de la force dans l’exemple héroïque de mon père.
   a. sauver  
   b. embaucher  
   c. réaliser  
   d. puiser  
   e. attraper  
   f. Je ne sais pas
Appendix H

Defining Characteristics of the Target Word Senses
<table>
<thead>
<tr>
<th>Target word</th>
<th>Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Immediate Test of Vocabulary Recall context for inferring a new sense</th>
<th>Word Sense of Target Word in Immediate Test of Vocabulary Recall</th>
</tr>
</thead>
<tbody>
<tr>
<td>visage</td>
<td>…l’aînée lui ressemblait si fort d’humeur et de visage, que, qui la voyait, voyait la mère. (the eldest resembled her temper and her face so much, that those who saw her saw the mother)</td>
<td>A physical characteristic</td>
<td>On pouvait voir la douleur de Marc dans l’expression de son visage. (You could see the Marc’s pain in the expression on his face.)</td>
<td>A place on a body where emotions are expressed</td>
</tr>
<tr>
<td>douceur</td>
<td>La cadette, qui était le vrai portrait de son père pour la douceur et la gentillesse, était l’une des plus belles filles du monde. (The youngest, who was the true depiction of her father for softness and gentleness, was one of the most beautiful girls in the world.)</td>
<td>A personality characteristic</td>
<td>Les enfants préfèrent les couvertures en coton parce qu’ils aiment la douceur de ce tissu. (The children prefer blankets made of cotton because they love the softness of this fabric.)</td>
<td>A trait used to describe the feel of blankets.</td>
</tr>
<tr>
<td>puiser</td>
<td>Il était nécessaire… que cette pauvre enfant allât, deux fois le jour, puiser de l’eau à la fontaine… (It was necessary … that this poor child go, twice a day, to draw out water from the spring.)</td>
<td>Drawing out water from a fountain/spring</td>
<td>Lors de situations difficiles, je peux toujours puiser de la force dans l’exemple héroïque de mon père. (In difficult situations, I can always draw on strength from my father’s heroic example.)</td>
<td>Drawing on strength from someone’s example</td>
</tr>
<tr>
<td>Target word</td>
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<tr>
<td>4. cruche</td>
<td>...et qu’elle rapportât pleine d’eau une grande cruche. (…and that she brought back a big pitcher full of water.)</td>
<td>Something big that’s full of water</td>
<td>J’aime bien cette cruche-là parce que je peux servir de l’eau à huit personnes à la fois. (I really love that pitcher because I can serve water to eight people at time.)</td>
<td>Something used to serve people water</td>
</tr>
<tr>
<td>5. soutenant</td>
<td>… soutenant toujours la cruche, afin qu’elle bût plus aisément. (…holding up the pitcher the whole time, so that she could drink more easily.)</td>
<td>Physically holding up something</td>
<td>Mon père a montré son affection pour ma mère en la soutenant pendant des mois après la mort de sa sœur. (My father showed affection toward my mother in supporting her during the following months after the death of her sister.)</td>
<td>Supporting someone emotionally</td>
</tr>
<tr>
<td>6. don</td>
<td>«…je ne peux pas m’empêcher de vous faire un don…il va vous sortir de la bouche ou une fleur,…» (« …I can not stop myself from giving you a gift… you will have a flower come out of your mouth, … »)</td>
<td>A tangible gift</td>
<td>Ma mère est bien reconnaissante des dons qu’elle a reçus pendant sa vie, en particulier le pouvoir de pressentir les situations dangereuses. (My mother est so thankful for the gifts she received throughout her life, especially the power to foretell dangerous situations.)</td>
<td>A gift that is intangible</td>
</tr>
<tr>
<td>Target word</td>
<td>Reading Passage Context</td>
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<tr>
<td>7. pierre</td>
<td>«...il va vous sortir de la bouche ou une fleur, ou une <strong>pierre</strong> précieuse.»… «Je pense qu’il lui sort de la bouche des perles et des diamants.» (« … you will have a flower or <strong>stone</strong> come out of your mouth. » … « I think pearls and diamonds are came out of her mouth. »)</td>
<td>Something precious</td>
<td>J’adore l’histoire de David et Goliath dans la Bible parce que David a tué le géant avec une toute petite pierre. (I love the story of David and Goliath in the Bible because David killed the giant with a small stone.)</td>
<td>Something used as a weapon</td>
</tr>
<tr>
<td>8. étonné</td>
<td>«Que vois-je là!» a dit sa mère tout étonnée. «Je pense qu’il lui sort de la bouche des perles et des diamants.» (« What do I see there ! » said the mother very surprised. « I think pearls and diamonds are came out of her mouth. »)</td>
<td>A reaction when one is amazed to what one is seeing</td>
<td>J’étais complètement étonnée quand ma mère m’a dit que mon père était à l’hôpital à cause d’une crise cardiaque parce qu’il n’a jamais eu de problèmes de santé. (I was completely surprised when my mother told me that my father was in the hospital due to a heart attack because he has never had health problems.)</td>
<td>A reaction when one is amazed to what one is hearing.</td>
</tr>
<tr>
<td>9. bois</td>
<td>Au moment où l’aînée est arrivée à la fontaine, elle a vu sortir du <strong>bois</strong> une dame magnifiquement vêtue,... (At the moment when the eldest arrived at the spring, she saw coming out of the <strong>woods</strong> a woman beautifully dressed….)</td>
<td>Something out of which one can come that’s near a fountain</td>
<td>On a cherché la fille perdue dans le <strong>bois</strong> pendant des jours. (They looked in the dark <strong>woods</strong> for several days for the lost girl.)</td>
<td>Something in which someone can get lost</td>
</tr>
<tr>
<td>Target word</td>
<td>Reading Passage Context</td>
<td>Word Sense of Target Word in Reading Passage</td>
<td>Immediate Test of Vocabulary Recall context for inferring a new sense</td>
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<tr>
<td>10. habits</td>
<td>C’était la même fée qui était apparue à sa sœur, mais qui avait pris l’air et les habits d’une princesse... (<em>It was this same fairy that appeared to her sister, but who looked and dressed in clothes like a princess…</em>)</td>
<td>Something that a princess would have</td>
<td>Puisque la famille était si pauvre, chaque soir la mère devait laver les seuls habits que sa fille avait dans sa garde-robe pour avoir quelque chose à porter le lendemain à l’école. (<em>Since the family was so poor, each night the mother had to wash the only clothes that her daughter had in her wardrobe so that there would be something to wear the next day to school.</em>)</td>
<td>Something that is washed and worn to school</td>
</tr>
<tr>
<td>11. crapaud</td>
<td>« … à chaque parole que vous allez dire, il va voussortir de la bouche ou un serpent, ou un crapaud.» (<em>… at each word that you will speak, there will be a snake or toad that will come out of your mouth.</em>)</td>
<td>Something that may come out of one’s mouth when speaking that accompanies</td>
<td>Tous les enfants ont ri quand ils ont entendu le grand croassement qui venait du crapaud dans la poche du pantalon du petit garçon. (<em>All the children laughed when they heard the big croak that came from the toad in the little boy’s pant pocket.</em>)</td>
<td>Something that creates a croak sound that may be placed in a little boy’s pant pocket</td>
</tr>
<tr>
<td>12. haïr</td>
<td>Pour sa sœur, tout le monde la haïssait tellement que sa mère l’a chassée de chez elle. (<em>As for her sister, everyone hated her so much that her mother chased her from the house.</em>)</td>
<td>A reason for kicking someone out of the house</td>
<td>Je hais mon père parce qu’il bat ma mère. (<em>I hate my father because he beats my mother.</em>)</td>
<td>A result of a negative experience in a family setting</td>
</tr>
</tbody>
</table>
Les fées by Charles Perrault

Il était une fois une veuve qui avait deux filles: l'aînée lui ressemblait si fort d'humeur et de visage, que quand on la voyait, on voyait la mère. Elles étaient toutes deux si désagréables et si orgueilleuses, que c'était impossible d'habiter avec elles. La cadette, qui était le vrai portrait de son père pour la douceur et l'honnêteté, était l'une des plus belles filles du monde. Comme on aime naturellement son semblable, cette mère adorait sa fille aînée, et, en même temps avait une aversion effroyable pour la cadette. La mère la faisait manger à la cuisine et travailler sans cesse.

Il était nécessaire, entre autres choses, que cette pauvre enfant allât, deux fois le jour, puiser de l'eau très loin de la maison, et qu'elle rapportât pleine d'eau une grande cruche. Un jour qu'elle était à cette fontaine, une pauvre femme est sortie du bois et elle a demandé à la fille de lui donner à boire.

«Oui, ma bonne mère», a dit cette belle fille avec la douceur et l'honnêteté de son père. Puis, la jeune fille a cherché de l'eau au plus bel endroit de la fontaine et lui a donné à boire en soutenant toujours le pichet pour aider la pauvre femme à boire plus aisément. La pauvre femme, après avoir bu, lui a dit: «Vous êtes si belle, si bonne et si honnête, que je ne peux pas m'empêcher de vous faire un don» ; car c'était une fée qui avait pris la forme d'une pauvre femme de village pour voir jusqu'où irait l'honnêteté de cette jeune fille. «Je vous donne pour don», a continué la fée, «qu'à chaque parole que vous allez dire, il va vous sortir de la bouche une fleur, ou une pierre précieuse».

Quand cette belle fille est arrivée au logis avec sa grande cruche pleine d'eau, sa mère était fâchée parce que la fille revenait si tard de la fontaine. «Je vous demande pardon, ma mère», a dit cette pauvre fille, «d'avoir tardé si longtemps» et, en disant ces mots, il lui est sorti de la bouche deux roses, deux perles et deux gros diamants. «Que vois-je là»! a dit sa mère tout étonnée. «Je pense qu'il lui sort de la bouche des perles et des diamants. D'où vient cela, ma fille»? (C'était là la première fois qu'elle l'appelait sa fille.) La pauvre enfant lui a raconté naïvement tout ce qui lui était arrivé, non sans jeter une infinité de diamants. «Vraiment», a dit la mère, «il est nécessaire d'envoyer ma fille à la fontaine. Tenez, Fanchon, (l'aînée qui ressemblait à la mère si fort d'humeur et de visage) voyez ce qui sort de la bouche de votre sœur quand elle parle. Ne seriez-vous pas bien heureuse d'avoir des fleurs et des pierres précieuses qui sortent de votre bouche? Vous n'avez qu'à aller chercher de l'eau à la fontaine, et, quand une pauvre femme va vous demander à boire, lui en donner bien honnêtement «Je ne veux pas aller à la fontaine», a répondu la méchante fille. «Je veux que vous y alliez», a dit la mère, «et tout de suite».

Elle y est allée, mais toujours en grommelant. Elle a pris avec elle le plus beau flacon d'argent qui était au logis. Au moment où l'aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue, et qui est venue lui demander à boire. C'était la

Appendix I

Reading Passage: Group A

Les fées by Charles Perrault
même fée qui était apparue à sa sœur, mais qui avait pris l'air et les habits d'une princesse pour voir jusqu'où irait la malhonnêteté de cette fille. «Est-ce que je suis ici venue», lui a dit cette brutale orgueilleuse, «pour vous donner à boire? Justement, j’ai apporté un flacon d’argent tout exprès pour donner à boire à Madame! Buvez à même si vous voulez». «Vous n’êtes guère honnête», a dit la fée, sans se fâcher. «Eh bien! Parce que vous êtes si peu obligeante, qu’à chaque parole que vous allez dire, il va vous sortir de la bouche ou un serpent, ou un crapaud».

Dès que la mère a vu l’aînée, elle lui a crié: «Eh bien, ma fille» ! «Eh bien, ma mère» ! lui a répondu la brutale, en jetant deux vipères et deux crapauds de la bouche. «O ciel» ! a crié la mère. «Que vois-je là? C’est sa sœur qui est en cause: elle va me le payer», et tout de suite la mère a voulu la battre. La pauvre enfant s’est enfuie et est allée se sauver dans la forêt prochaine. Le fils du roi, qui revenait de la chasse, l’a rencontrée et, la voyant si belle, lui a demandé pourquoi elle était là toute seule et pourquoi elle pleurait. «Hélas, Monsieur, c'est ma mère qui a voulu me battre et je me suis enfuie du logis». Le fils du roi, qui a vu sortir de sa bouche cinq ou six perles et autant de diamants, lui a demandé d'où cela lui venait. Elle lui a raconté toute son aventure. Le fils du roi est devenu amoureux de cette jeune fille, et l'a emmenée au palais du roi son père où il l'a épousée.

Pour sa sœur, tout le monde la haïssait tellement que sa mère l'a chassée de chez elle. Et cette malheureuse fille, sans trouver personne qui voulait la recevoir, est allée mourir au coin de la forêt.
Il était une fois une veuve qui avait deux filles: l’aînée lui ressemblait si fort d'humeur et de visage, et que quand on la voyait, on voyait la mère. Elles étaient toutes deux si désagréables et si orgueilleuses, que c'était impossible d'habiter avec elles. La cadette, qui était le vrai portrait de son père pour la douceur et l'honnêteté, était l'une des plus belles filles du monde. Comme on aime naturellement son semblable, cette mère adorait sa fille aînée, et, en même temps avait une aversion effroyable pour la cadette. La mère la faisait manger à la cuisine et travailler sans cesse.

Il était nécessaire, entre autres choses, que cette pauvre enfant allât, deux fois le jour, puiser de l'eau très loin de la maison, et qu'elle rapportât pleine d'eau une grande cruche. Un jour qu'elle était à cette fontaine, une pauvre femme y est venue et elle a demandé à la fille de lui donner à boire.

«Oui, ma bonne mère», a dit cette belle fille. Puis, la jeune fille a cherché de l'eau au plus bel endroit de la fontaine et lui a donné à boire en soutenant toujours le pichet pour aider la pauvre femme à boire plus aisément. La pauvre femme, après avoir bu, lui a dit: «Vous êtes si belle, si bonne et si honnête, que je ne peux pas m'empêcher de vous faire un don» ; car c'était une fée qui avait pris la forme d'une pauvre femme de village pour voir jusqu'où irait l'honnêteté de cette jeune fille. «À chaque parole que vous allez dire», a dit la fée, «il va vous sortir de la bouche ou une fleur, ou une pierre précieuse».

Quand cette belle fille est arrivée au logis, sa mère était fâchée parce que la fille revenait si tard de la fontaine. «Je vous demande pardon, ma mère», a dit cette pauvre fille, «d'avoir tardé si longtemps» et, en disant ces mots, il lui est sorti de la bouche deux roses, deux perles et deux gros diamants. «Que vois-je là!» a dit sa mère tout étonnée. «Je pense qu'il lui sort de la bouche des perles et des diamants. D'où vient cela, ma fille»? (C'était là la première fois qu'elle l'appelait sa fille.) La pauvre enfant lui a raconté naïvement tout ce qui lui était arrivé, non sans jeter une infinité de diamants. «Vraiment», a dit la mère, «il est nécessaire d'envoyer ma fille à la fontaine. Tenez, Fanchon, voyez ce qui sort de la bouche de votre sœur quand elle parle. Ne seriez-vous pas bien heureuse d'avoir des choses précieuses qui sortent de votre bouche? Vous n'avez qu'à aller puiser de l'eau à la fontaine, et, quand une pauvre femme va vous demander à boire, lui en donner bien honnêtement en soutenant toujours le pichet d'eau pour l'aider à boire plus aisément». «Je ne veux pas aller à la fontaine», a répondu la méchante fille. «Je veux que vous y alliez», a dit la mère, «et tout de suite».

Elle y est allée, mais toujours en grommelant. Elle a pris avec elle le plus beau flacon d'argent qui était au logis. Au moment où l'aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue, et qui est venue lui demander à boire. C'était la
même fée qui était apparue à sa sœur, mais qui avait pris l'air et les habits d'une princesse pour voir jusqu'où irait la malhonnêteté de cette fille. «Est-ce que je suis ici venue», lui a dit cette brutale orgueilleuse, «pour vous donner à boire? Justement, j'ai apporté un flacon d'argent tout exprès pour donner à boire à Madame! Buvez à même si vous voulez», «Vous n'êtes guère honnête», a dit la fée, sans se fâcher. «J'ai pris l'air et les habits d'une princesse pour voir jusqu'où irait votre malhonnêteté. Eh bien! Parce que vous êtes si peu obligeante, qu'à chaque parole que vous allez dire, il va vous sortir de la bouche ou un serpent, ou un crapaud»,

Dès que la mère a vu l'aînée, elle lui a crié: «Eh bien, ma fille»! «Eh bien, ma mère»! lui a répondu la brutale, en jetant deux vipères de la bouche. «O ciel! Que vois-je là»! a crié la mère tout étonnée. «C'est sa sœur qui est en cause: elle va me le payer;”» et tout de suite la mère a voulu la battre. La pauvre enfant s'est enfuie et est allée se sauver dans la forêt prochaine. Le fils du roi, qui revenait de la chasse, l'a rencontrée et, la voyant si belle, lui a demandé pourquoi elle était là toute seule et pourquoi elle pleurait. «Hélas, Monsieur, c'est ma mère qui m'a chassée du logis». Le fils du roi, qui a vu sortir de sa bouche cinq ou six perles et autant de diamants, lui a demandé d'où cela lui venait. Elle lui a raconté toute son aventure. Le fils du roi est devenu amoureux de cette jeune fille, et l'a emmenée au palais du roi son père où il l'a épousée.

Pour sa sœur, tout le monde la haïssait tellement que sa mère l'a chassée de chez elle. Et cette malheureuse fille, sans trouver personne qui voulait la recevoir parce que tout le monde la haïssait tellement, est allée mourir au coin de la forêt après avoir été chassée de chez elle.
Appendix K

Evaluation of the Target Word Senses: Reading Passage and Vocabulary Pretest
Objective:
To compare and rate the meanings of the target words in the text with the meanings of the target words in the vocabulary pretest, and to evaluate the word senses of the target words as defined by the researcher.

Instructions:
1. Please compare the meanings of the target words as portrayed in reading passage with the meaning of the target words as portrayed in the vocabulary pretest. Rate the items below by marking the appropriate number rating according to the following criteria:

The meanings of the target words in the reading passage and the vocabulary pretest ___.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>have the exact same word sense</td>
<td>1</td>
</tr>
<tr>
<td>closely resemble the same word sense</td>
<td>2</td>
</tr>
<tr>
<td>have a different word sense</td>
<td>3</td>
</tr>
<tr>
<td>closely resemble a different word meaning</td>
<td>4</td>
</tr>
<tr>
<td>have a completely different word meaning</td>
<td>5</td>
</tr>
</tbody>
</table>

For example, with the target word underlined:

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Pretest Context</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>Johnny couldn’t wait for school to get out because then he could throw his new <strong>ball</strong> to his brother.</td>
<td>An object thrown for enjoyment</td>
<td>1</td>
</tr>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>It was a traumatic day when Bobby popped his new <strong>ball</strong> on a nail.</td>
<td>An object that can be deflated of air by a nail</td>
<td>3</td>
</tr>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>Susan dreamed of the day when she would kiss her Prince Charming at the <strong>ball</strong> during her senior year of high school.</td>
<td>A place where one can make a romantic encounter</td>
<td>5</td>
</tr>
</tbody>
</table>
2. Please make any comments after each target word evaluation in the spaces provided if you do not agree with how the researcher defines the senses of the target words given the contexts.

For example: Suggested changes: I would define the term “ball” in the reading passage a little differently. I would define it as _____.

Note: Because of limited space, evaluate the word senses according to the criteria illustrated on the previous page.
1. Reading Passage Context | Word Sense of Target Word in Reading Passage | Vocabulary Pretest Context | Word Sense of Target Word in Vocabulary Pretest | Rating (1-5)
--- | --- | --- | --- | ---
...l’aînée lui ressemblait si fort d’humeur et de visage, que, qui la voyait, voyait la mère. | A physical characteristic | Mes deux frères se ressemblent si fort de visage que tout le monde pense qu’ils sont jumeaux. | A personality characteristic | 1
2 | 2
3 | 3
4 | 4
5 | 5

Suggested changes: ________________________________

2. Reading Passage Context | Word Sense of Target Word in Reading Passage | Vocabulary Pretest Context | Word Sense of Target Word in Vocabulary Pretest | Rating (1-5)
--- | --- | --- | --- | ---
La cadette, qui était le vrai portrait de son père pour la douceur et la gentillesse, était l’une des plus belles filles du monde. | A personality characteristic | Tout le monde adore immédiatement cette fille parce qu’elle est pleine de douceur. | A personality characteristic | 1
2 | 3
4 | 4
5 | 5

Suggested changes: ________________________________

3. Reading Passage Context | Word Sense of Target Word in Reading Passage | Vocabulary Pretest Context | Word Sense of Target Word in Vocabulary Pretest | Rating (1-5)
--- | --- | --- | --- | ---
Il était nécessaire… que cette pauvre enfant allât, deux fois le jour, puiser de l’eau à la fontaine… | Drawing out water from a fountain/spring | Avant de faire une promenade à pied, Matthieu a dû puiser assez d’eau de la fontaine pour remplir sa gourde. | Drawing out water from a fountain/spring | 1
2 | 3
4 | 4
5 | 5

Suggested changes: ________________________________
<table>
<thead>
<tr>
<th>4. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Pretest Context</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>...et qu’elle rapportât plein d’eau une grande <strong>cruche</strong>.</td>
<td>Something big that’s full of water</td>
<td>Puisqu’il n’y avait pas d’eau fraîche à la maison, ma grand-mère devait remplir une grande <strong>cruche</strong> à une fontaine près de la maison.</td>
<td>Something big that you fill at a fountain/spring</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**

<table>
<thead>
<tr>
<th>5. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Pretest Context</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>…en <strong>soutenant</strong> toujours la cruche pour aider la pauvre femme à boire plus aisément.</td>
<td>Physically holding up something</td>
<td>En <strong>soutenant</strong> la toiture, les poutres de la maison permettent une meilleure protection contre les éléments naturels.</td>
<td>Physically holding up something</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**

<table>
<thead>
<tr>
<th>6. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Pretest Context</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«…je ne peux pas m’empêcher de vous faire un <strong>don</strong>…il va vous sortir de la bouche ou une fleur,…»</td>
<td>A tangible gift</td>
<td>La marraine de Cendrillon lui offre un <strong>don</strong> : une magnifique robe de soirée pour danser avec le prince du royaume.</td>
<td>A tangible gift</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**
<table>
<thead>
<tr>
<th>7. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Pretest Context</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«...il va vous sortir de la bouche ou une fleur, ou une <strong>pièce</strong> précieuse...»... «Je pense qu’il lui sort de la bouche des perles et des diamants.»</td>
<td>Something precious</td>
<td>C’est le rêve de tous les petits garçons de trouver la carte d’un pirate, comme “One-Eyed Willie,” et de découvrir son coffre plein de <strong>pièces</strong> précieuses.</td>
<td>Something precious that’s found in a pirate’s chest</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

Suggested changes: ____________________________________________________________

<table>
<thead>
<tr>
<th>8. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Pretest Context</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«Que vois-je là!» a dit sa mère tout étonnée. «Je pense qu’il lui sort de la bouche des perles et des diamants.»</td>
<td>A reaction when one is amazed to what one is seeing</td>
<td>La mère du garçon délinquant était complètement étonnée de voir les bonnes notes de son fils sur son relevé de notes de fin d’année scolaire.</td>
<td>A reaction when one is amazed to what one is seeing</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

Suggested changes: ____________________________________________________________

<table>
<thead>
<tr>
<th>9. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Pretest Context</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Au moment où l’aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue,...</td>
<td>Something out of which one can come that’s near a fountain</td>
<td>Le bûcheron est sorti du bois après une longue journée de travail.</td>
<td>Something out of which one can come</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

Suggested changes: ____________________________________________________________
<table>
<thead>
<tr>
<th>10. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Pretest Context</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C’était la même fée qui était apparue à sa sœur, mais qui avait pris l’air et les habits d’une princesse...</td>
<td>Something that a princess would have</td>
<td>Au bal, tout le monde avait l’impression que nous étions royaux parce que nous avions les habits d’un prince ou d’une princesse.</td>
<td>Something that a prince or a princess would have</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Suggested changes: ____________________________

<table>
<thead>
<tr>
<th>11. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Pretest Context</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>« … à chaque parole que vous allez dire, il va vous sortir de la bouche ou un crapaud. »</td>
<td>Something that may come out of one’s mouth when speaking that accompanies</td>
<td>Le soir de Halloween, les sorcières utilisent des serpents, des lézards et des crapauds comme ingrédients pour faire leurs potions.</td>
<td>Something that accompanies snakes and lizards when creating a witch’s brew</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Suggested changes: ____________________________

<table>
<thead>
<tr>
<th>12. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Pretest Context</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pour sa sœur, tout le monde la haïssait tellement que sa mère l’a chassée de chez elle.</td>
<td>A reason for being kicked out of the house</td>
<td>La méchante belle-mère, qui vivait une vie de haute couture, a chassé sa fille Danielle de la maison parce que la mère la haïssait et ses mauvaises manières à table.</td>
<td>A reason for being kicked out of the house</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Suggested changes: ____________________________
Appendix L

Evaluation of the Target Word Senses: Reading Passage and Vocabulary Post-test, Part I
**Objective:**

To compare and rate the meanings of the target words in the text with the meanings of the target words in the vocabulary post-test, and to evaluate the word senses of the target words as defined by the researcher.

**Instructions:**

1. Please compare the meanings of the target words as portrayed in reading passage with the meaning of the target words as portrayed in the vocabulary post-test. Rate the items below by marking the appropriate number rating according to the following criteria:

   The meanings of the target words in the reading passage and the vocabulary post-test ___.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>have the exact same word sense</td>
<td>1</td>
</tr>
<tr>
<td>closely resemble the same word sense</td>
<td>2</td>
</tr>
<tr>
<td>have a different word sense</td>
<td>3</td>
</tr>
<tr>
<td>closely resemble a different word meaning</td>
<td>4</td>
</tr>
<tr>
<td>have a completely different word meaning</td>
<td>5</td>
</tr>
</tbody>
</table>

*For example, with the target word underlined:*

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>Johnny couldn’t wait for school to get out because then he could throw his new <strong>ball</strong> to his brother.</td>
<td>An object thrown for enjoyment</td>
<td>1</td>
</tr>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>It was a traumatic day when Bobby popped his new <strong>ball</strong> on a nail.</td>
<td>An object that can be deflated of air by a nail</td>
<td>3</td>
</tr>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>Susan dreamed of the day when she would kiss her Prince Charming at the <strong>ball</strong> during her senior year of high school.</td>
<td>A place where one can make a romantic encounter</td>
<td>5</td>
</tr>
</tbody>
</table>
2. Please make any comments after each target word evaluation in the spaces provided if you do not agree with how the researcher defines the senses of the
target words given the contexts.

For example: Suggested changes: I would define the term “ball” in the reading passage a little differently. I would define it as _____.

Note: Because of limited space, evaluate the word senses according to the criteria illustrated on the previous page.
<table>
<thead>
<tr>
<th>1. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>…l’aînée lui ressemblait si fort d’humeur et de visage, que, qui la voyait, voyait la mère.</td>
<td>A physical characteristic</td>
<td>Le petit garçon ressemblait à son père de visage mais ressemblait à sa mère par sa personnalité.</td>
<td>A physical characteristic</td>
<td>□ 1 □ 2 □ 3 □ 4 □ 5</td>
</tr>
</tbody>
</table>

Suggested changes:  

---

<table>
<thead>
<tr>
<th>2. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>La cadette, qui était le vrai portrait de son père pour la douceur et la gentillesse, était l’une des plus belles filles du monde.</td>
<td>A personality characteristic</td>
<td>Ma camarade de chambre est renommée pour sa douceur parce qu’elle est calme et gentille avec tout le monde.</td>
<td>A personality characteristic</td>
<td>□ 1 □ 2 □ 3 □ 4 □ 5</td>
</tr>
</tbody>
</table>

Suggested changes:  

---

<table>
<thead>
<tr>
<th>3. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Il était nécessaire… que cette pauvre enfant allât, deux fois le jour, puiser de l’eau à la fontaine…</td>
<td>Drawing out water from a fountain/spring</td>
<td>Avant l’invention de l’eau courante à la maison, mes grands-parents devaient puiser de l’eau à la fontaine près de la maison.</td>
<td>Drawing out water from a fountain/spring</td>
<td>□ 1 □ 2 □ 3 □ 4 □ 5</td>
</tr>
</tbody>
</table>

Suggested changes:  

---
<table>
<thead>
<tr>
<th>4. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>...et qu’elle rapportât pleine d’eau une grande <strong>cruche</strong>.</td>
<td>Something big that’s full of water</td>
<td>Avant la naissance de mes grands-parents, les hommes étaient responsables du jardinage alors que les femmes étaient responsables de faire la cuisine, le ménage, et aussi de chercher de l’eau avec une grande <strong>cruche</strong> à une fontaine loin de la maison.</td>
<td>Something big to obtain water from the well</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**

<table>
<thead>
<tr>
<th>5. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>…en soutenant toujours la carafe pour la pauvre femme pour l’aider à boire plus aisément.</td>
<td>Physically holding up something</td>
<td>Avant d’accrocher le tableau sur le mur du salon, Jean a aidé sa sœur, Carole, en soutenant la peinture pendant qu’elle regardait le placement de la peinture sur le mur pour la dernière fois.</td>
<td>Physically holding up something</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**

<table>
<thead>
<tr>
<th>6. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«…je ne peux pas m’empêcher de vous faire un don…il va vous sortir de la bouche ou une fleur,…»</td>
<td>A tangible gift</td>
<td>L’université reçoit beaucoup de <strong>dons</strong> de grandes entreprises pour financer des programmes de maîtrise à l’université.</td>
<td>A tangible gift</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**
<table>
<thead>
<tr>
<th>7. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«...il va vous sortir de la bouche ou une fleur, ou une pierre précieuse...» «Je pense qu'il lui sort de la bouche des perles et des diamants.»</td>
<td>Something precious</td>
<td>J’aime toutes les pierres précieuses, mais je préfère les rubis et les diamants.</td>
<td>Something precious</td>
<td>□ 1 □ 2 □ 3 □ 4 □ 5</td>
</tr>
</tbody>
</table>

Suggested changes: __________________________________________________________________________

<table>
<thead>
<tr>
<th>8. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«Que vois-je là!» a dit sa mère tout étonnée. «Je pense qu’il lui sort de la bouche des perles et des diamants.»</td>
<td>A reaction when one is amazed to what one is seeing</td>
<td>Jean-Luc était très étonné devant son billet de loterie qui allait lui donner assez d’argent pour payer toutes ses dettes.</td>
<td>A reaction when one is amazed to what one is seeing</td>
<td>□ 1 □ 2 □ 3 □ 4 □ 5</td>
</tr>
</tbody>
</table>

Suggested changes: __________________________________________________________________________

<table>
<thead>
<tr>
<th>9. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Au moment où l’aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue,...</td>
<td>Something out of which one can come that’s near a fountain</td>
<td>Les hivers commencent à être difficiles pour les animaux sauvages quand ils sortent du bois pour chercher de la nourriture dans des villes voisines.</td>
<td>Something out of which something can come</td>
<td>□ 1 □ 2 □ 3 □ 4 □ 5</td>
</tr>
</tbody>
</table>

Suggested changes: __________________________________________________________________________
### 10. Reading Passage Context

<table>
<thead>
<tr>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C’était la même fée qui était apparue à sa sœur, mais qui avait pris l’air et les habits d’une princesse...</td>
<td>Something that a princess would have</td>
<td>Les petites filles adorent mettre les habits d’une princesse pour imaginer qu’un prince va les délivrer d’un méchant dragon.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**

### 11. Reading Passage Context

<table>
<thead>
<tr>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>« … à chaque parole que vous allez dire, il va vous sortir de la bouche ou un crapaud. »</td>
<td>Something that may come out of one’s mouth when speaking that accompanies</td>
<td>Puisque la jeune fille n’avait pas pu arrêter de mentir, la sorcière l’a maudite; alors, quand la jeune fille parlait il y avait des crapauds qui sortaient de sa bouche.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**

### 12. Reading Passage Context

<table>
<thead>
<tr>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for recalling the same sense</th>
<th>Word Sense of Target Word in Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pour sa sœur, tout le monde la haïssait tellement que sa mère l’a chassée de chez elle.</td>
<td>A reason for being kicked out of the house</td>
<td>Je hais les haricots verts alors je les ai jetés à la poubelle.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**
Appendix M

Evaluation of the Target Word Senses: Reading Passage and Vocabulary Post-test, Part II
Objective:
To compare and rate the meanings of the target words in the text with the meanings of the target words in the vocabulary post-test, and to evaluate the word senses of the target words as defined by the researcher.

Instructions:
1. Please compare the meanings of the target words as portrayed in reading passage with the meaning of the target words as portrayed in the vocabulary post-test. Rate the items below by marking the appropriate number rating according to the following criteria:

The meanings of the target words in the reading passage and the vocabulary post-test ___.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>have the exact same word sense</td>
<td>1</td>
</tr>
<tr>
<td>closely resemble the same word sense</td>
<td>2</td>
</tr>
<tr>
<td>have a different word sense</td>
<td>3</td>
</tr>
<tr>
<td>closely resemble a different word meaning</td>
<td>4</td>
</tr>
<tr>
<td>have a completely different word meaning</td>
<td>5</td>
</tr>
</tbody>
</table>

For example, with the target word underlined:

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>Johnny couldn’t wait for school to get out because then he could throw his new <strong>ball</strong> to his brother.</td>
<td>An object thrown for enjoyment</td>
<td>1</td>
</tr>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>It was a traumatic day when Bobby popped his new <strong>ball</strong> on a nail.</td>
<td>An object that can be deflated of air by a nail</td>
<td>3</td>
</tr>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>Susan dreamed of the day when she would kiss her Prince Charming at the <strong>ball</strong> during her senior year of high school.</td>
<td>A place where one can make a romantic encounter</td>
<td>5</td>
</tr>
</tbody>
</table>
2. Please make any comments after each target word evaluation in the spaces provided if you do not agree with how the researcher defines the senses of the target words given the contexts.

*For example:* Suggested changes: I would define the term “ball” in the reading passage a little differently. I would define it as _____.

*Note:* Because of limited space, evaluate the word senses according to the criteria illustrated on the previous page.
<table>
<thead>
<tr>
<th>1. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>…l’aînée lui ressemblait si fort d’humeur et de visage, que, qui la voyait, voyait la mère.</td>
<td>A physical characteristic</td>
<td>On pouvait voir la douleur de Marc dans l’expression de son visage.</td>
<td>A place on a body where emotions are expressed</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**

<table>
<thead>
<tr>
<th>2. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>La cadette, qui était le vrai portrait de son père pour la douceur et la gentillesse, était l’une des plus belles filles du monde.</td>
<td>A personality characteristic</td>
<td>Les enfants préfèrent les couvertures en coton parce qu’ils aiment la douceur de ce tissu.</td>
<td>A trait used to describe the feel of blankets</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**

<table>
<thead>
<tr>
<th>3. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Il était nécessaire… que cette pauvre enfant allât, deux fois le jour, puiser de l’eau à la fontaine…</td>
<td>Drawing out water from a fountain/spring</td>
<td>Lors de situations difficiles, je peux toujours puiser de la force dans l’exemple héroïque de mon père.</td>
<td>Drawing on strength from someone’s example</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**
<table>
<thead>
<tr>
<th>4. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>...et qu’elle rapportât pleine d’eau une grande <strong>cruche</strong>.</td>
<td>Something big that’s full of water</td>
<td>J’aime bien cette <strong>cruche</strong>-là parce que je peux servir de l’eau à huit personnes à la fois.</td>
<td>Something used to serve people water</td>
<td>4</td>
</tr>
<tr>
<td><strong>Suggested changes:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>…en <strong>soutenant</strong> toujours la cruche pour la pauvre femme pour l’aider à boire plus aisément.</td>
<td>Physically holding up something</td>
<td>Mon père a montré son affection pour ma mère en la <strong>soutenant</strong> pendant des mois après la mort de sa sœur.</td>
<td>Supporting someone emotionally</td>
<td>4</td>
</tr>
<tr>
<td><strong>Suggested changes:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«...je ne peux pas m’empêcher de vous faire un don...il va vous sortir de la bouche ou une fleur,...»</td>
<td>A tangible gift</td>
<td>Ma mère est bien reconnaissante des dons qu’elle a reçus pendant sa vie, en particulier le pouvoir de pressentir les situations dangereuses.</td>
<td>A gift that is intangible</td>
<td>4</td>
</tr>
<tr>
<td><strong>Suggested changes:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**4. Reading Passage Context:**

J’aime bien cette **cruche**-là parce que je peux servir de l’eau à huit personnes à la fois.

**Vocabulary Post-test context for inferring an additional sense:**

Supporting someone emotionally

**Word Sense of Target Word in the Vocabulary Post-test:**

Something used to serve people water

**Rating (1-5):**

4

**Suggested changes:**

- **4. Reading Passage Context:**
  - Replace “pleine d’eau” with “pleine de”
  - Replace “une grande” with “grande”

- **5. Reading Passage Context:**
  - Replace “soutenant” with “soutenant”

- **6. Reading Passage Context:**
  - Replace “ferait” with “faisait”
  - Replace “sous” with “en”
<table>
<thead>
<tr>
<th>7. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«...il va vous sortir de la bouche ou une fleur, ou une pierre précieuse.»... «Je pense qu’il lui sort de la bouche des perles et des diamants.»</td>
<td>Something precious</td>
<td>J’adore l’histoire de David et Goliath dans la Bible parce que David a tué le géant avec une toute petite pierre.</td>
<td>Something used as a weapon</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**

<table>
<thead>
<tr>
<th>8. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«Que vois-je là!» a dit sa mère tout étonnée. «Je pense qu’il lui sort de la bouche des perles et des diamants.»</td>
<td>A reaction when one is amazed to what one is seeing</td>
<td>J’étais complètement étonnée quand ma mère m’a dit que mon père était à l’hôpital à cause d’une crise cardiaque parce qu’il n’a jamais eu de problèmes de santé.</td>
<td>A reaction when one is amazed to what one is hearing.</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**

<table>
<thead>
<tr>
<th>9. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
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<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Au moment où l’aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue,...</td>
<td>Something out of which one can come that’s near a fountain</td>
<td>On a cherché la fille perdue dans le bois pendant des jours.</td>
<td>Something in which someone can get lost.</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

**Suggested changes:**
<table>
<thead>
<tr>
<th>10. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C’était la même fée qui était apparue à sa sœur, mais qui avait pris l’air et les habits d’une princesse...</td>
<td>Something that a princess would have</td>
<td>Puisque la famille était si pauvre, chaque soir la mère devait laver les seuls habits que sa fille avait dans sa garde-robe pour avoir quelque chose à porter le lendemain à l’école.</td>
<td>Something that is washed and worn to school.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Suggested changes: ________________________________

<table>
<thead>
<tr>
<th>11. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>« … à chaque parole que vous allez dire, il va vous sortir de la bouche ou un crapaud. »</td>
<td>Something that may come out of one’s mouth when speaking that accompanies</td>
<td>Tous les enfants ont ri quand ils ont entendu le grand croassement qui venait du crapaud dans la poche du pantalon du petit garçon.</td>
<td>Something that creates a croak sound that may be placed in a little boy’s pant pocket</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Suggested changes: ________________________________

<table>
<thead>
<tr>
<th>12. Reading Passage Context</th>
<th>Word Sense of Target Word in Reading Passage</th>
<th>Vocabulary Post-test context for inferring an additional sense</th>
<th>Word Sense of Target Word in the Vocabulary Post-test</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pour sa sœur, tout le monde la haïssait tellement que sa mère l’a chassée de chez elle.</td>
<td>A reason for kicking someone out of the house</td>
<td>Je hais mon père parce qu’il bat ma mère.</td>
<td>A result of a negative experience in a family setting</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Suggested changes: ________________________________
Appendix N

Evaluation of the Test Answers: Vocabulary Pretest

Objective
To determine that there is ONLY one correct answer to each test item.

Instructions
1. Please read each test item and review the possible answers.
2. Circle all possible answers for each test item.
3. If more than one answer is circled for any given test item, comment on the ambiguity or confusion that may exist between the circled answers in the space provided entitled “Suggested changes” immediately after each test item. Any of the comment spaces left blank will indicate that you feel that the test item should remain as it is presently.

Vocabulary Pretest

1. Quand on n’avait plus d’électricité à cause du mauvais temps, on n’avait que des _____ pour avoir de la lumière.
   a. éclairs
   b. bougies
   c. lustres
   d. ampoules
   e. lampes
   f. Je ne sais pas

   Suggested changes: ______________________________________________________

2. C’était toujours le rêve de ma sœur de vouloir danser toute la soirée avec un prince au _____.
   a. balle
   b. concert
   c. cinéma
   d. bal
   e. parc
   f. Je ne sais pas

   Suggested changes: ______________________________________________________

3. Quand je reste à l’hôtel, je demande une chambre avec douche et _____ parce j’aime bien avoir le choix de prendre une douche ou un bain.
   a. baignoire
   b. piscine
   c. W.C.
   d. salle de bains
   e. toilettes
   f. Je ne sais pas

   Suggested changes: ______________________________________________________

4. Au bal, tout le monde avait l’impression que nous étions nobles parce que nous avions les _____ d’un prince ou d’une princesse.
   a. couvertures
   b. habits
   c. tissus
   d. complets
   e. tailleurs
   f. Je ne sais pas

   Suggested changes: ______________________________________________________
5. Quand j’étais petit, on n’avait pas de ______. On devait aller chez mon ami pour nager.
   a. lac
   b. mare
   c. mer
   d. flaque
   e. piscine
   f. Je ne sais pas

Suggested changes: ______________________________________________________

6. La marraine de Cendrillon lui offre un ______ : une magnifique robe de soirée pour danser avec le prince du royaume.
   a. lettre
   b. don
   c. récompense
   d. talent
   e. contribution
   f. Je ne sais pas

Suggested changes: ______________________________________________________

7. Quand j’avais 4 ou 5 ans, je suis allé voir le Père Noël, et à cette époque-là, je ne pouvais pas arrêter de ______ parce que j’avais peur du Père Noël.
   a. pleurer
   b. parler
   c. écrire
   d. rier
   e. rigoler
   f. Je ne sais pas

Suggested changes: ______________________________________________________

8. Le bûcheron est sorti du ______ après une longue journée de travail.
   a. champs
   b. terrain
   c. domaine
   d. moulin
   e. bois
   f. Je ne sais pas

Suggested changes: ______________________________________________________

9. La méchante belle-mère, qui se voulait de la haute société, a chassé sa fille Danielle de la maison parce que la mère la ______ et ses mauvaises manières à table.
   a. tolérait
   b. taquinait
   c. questionnait
   d. rapportait
   e. haïssait
   f. Je ne sais pas

Suggested changes: ______________________________________________________

10. Mes deux frères se ressemblent tant de ______ que tout le monde pense qu’ils sont jumeaux.
    a. personnalité
    b. conduite
    c. visage
    d. comportement
    e. caractère
    f. Je ne sais pas

Suggested changes: ______________________________________________________

11. Avant de faire une promenade à pied, Matthieu a dû ______ assez d’eau de la fontaine pour remplir sa gourde.
    a. puiser
    b. chercher
    c. apporter
    d. trouver
    e. attraper
    f. Je ne sais pas

Suggested changes: ______________________________________________________
12. Ma mère me demande toujours de _____ ma chambre avant de sortir avec mes copains.
   a. remettre  
   b. salir  
   c. tâcher  
   d. laver  
   e. ranger  
   f. Je ne sais pas  
   Suggested changes: ________________________________

13. Le soir de Halloween, les sorcières utilisent des serpents, des lézards et des _____ comme ingrédients pour faire leurs potions.
   a. huîtres  
   b. oiseaux  
   c. lions  
   d. crapauds  
   e. giraffes  
   f. Je ne sais pas  
   Suggested changes: ________________________________

14. Mes frères sont tous les deux mariés. Ma sœur, par contre, est toujours _____. On lui dit qu’un jour elle va trouver son « prince charmant ».
   a. individuel  
   b. célibataire  
   c. unique  
   d. optimiste  
   e. pessimiste  
   f. Je ne sais pas  
   Suggested changes: ________________________________

15. Tout le monde adore immédiatement cette fille à cause de sa _____.
   a. dureté  
   b. souffrance  
   c. douceur  
   d. colère  
   e. laideur  
   f. Je ne sais pas  
   Suggested changes: ________________________________

16. Puisqu’il n’y avait pas d’eau fraîche à la maison, ma grand-mère devait remplir une grande _____ à une fontaine près de la maison.
   a. casserole  
   b. poêle  
   c. piscine  
   d. tasse  
   e. cruche  
   f. Je ne sais pas  
   Suggested changes: ________________________________

17. Quand j’étais petit, mon meilleur ami et moi, nous nous amusions beaucoup tous les jours après l’école quand nous nous racontions des _____ que nous avions entendu(e)s pendant la journée.
   a. livres  
   b. blagues  
   c. épopées  
   d. contes  
   e. mensonges  
   f. Je ne sais pas  
   Suggested changes: ________________________________
18. La mère du garçon délinquant était complètement _____ de voir les bonnes notes de son fils sur son relevé de notes de fin d’année scolaire.
   a. dégoûtée  
   b. fâchée  
   c. étonnée  
   d. triste  
   e. belle  
   f. Je ne sais pas

Suggested changes: ____________________________________________________________

   a. bagues  
   b. cuillères  
   c. pierres  
   d. poussière  
   e. roches  
   f. Je ne sais pas

Suggested changes: ____________________________________________________________

20. Pendant toute la journée, la petite fille de cinq ans jouait avec sa nouvelle _____ que ses parents lui avaient donnée comme cadeau d’anniversaire.
   a. voiture  
   b. poche  
   c. robe  
   d. bague  
   e. poupée  
   f. Je ne sais pas

Suggested changes: ____________________________________________________________

21. En _____ la toiture, les poutres de la maison permettent une meilleure protection contre les éléments naturels.
   a. faisant  
   b. aidant  
   c. poussant  
   d. soutenant  
   e. jetant  
   f. Je ne sais pas

Suggested changes: ____________________________________________________________

22. Dans la classe de ma nièce de dix ans, l’élève qui répond correctement le plus rapidement possible est choisi comme le roi ou la _____ du jour.
   a. reine  
   b. princesse  
   c. paysane  
   d. comtesse  
   e. sorcière  
   f. Je ne sais pas

Suggested changes: ____________________________________________________________
Appendix O

Evaluation of the Test Answers: Reading Comprehension Test

Objective
To determine that there is ONLY one correct answer to each test item.

Instructions
1. Please read each test item and review the possible answers.
2. Circle all possible answers for each test item.
3. If more than one answer is circled for any given test item, comment on the ambiguity or confusion that may exist between the circled answers in the space provided entitled “Suggested changes” immediately after each test item. Any of the comment spaces left blank will indicate that you feel that the test item should remain as it is presently.

Reading Comprehension Post-test

1. *Les fées* is a fairy tale that tells the story of _____.
   - two girls who share their toys with other unfortunate children
   - two boys who get into a lot of trouble by setting fire to the house
   - a girl and a boy who find money in a wishing well
   - a nice girl who helps another and a rude girl who doesn’t

   Suggested changes: ________________________________________

2. The oldest daughter most resembled her _____.
   - younger sister
   - mother
   - father
   - older brother

   Suggested changes: ________________________________________

3. When the youngest daughter helped the fairy, the fairy blessed her with _____.
   - kind parents
   - gold and silver
   - pearls and diamonds
   - her own kingdom

   Suggested changes: ________________________________________

4. In the very end, the youngest daughter _____.
   - marrying a prince
   - finding a sack of gold
   - dying alone in the forest
   - being kicked out of the house

   Suggested changes: ________________________________________
5. What general lesson introduced in the fairy tale, *Les fées*, is most applicable to today’s society?
   a. Never go to the water well alone.
   b. Never talk to strangers.
   c. Always help others who are less fortunate.
   d. Always listen to your parents.

*Suggested changes:________________________________________________________*
Appendix P

Evaluation of the Test Answers: Vocabulary Post-test

Objective
To determine that there is ONLY one correct answer to each test item.

Instructions
1. Please read each test item and review the possible answers.
2. Circle all possible answers for each test item.
3. If more than one answer is circled for any given test item, comment on the ambiguity or confusion that may exist between the circled answers in the space provided entitled “Suggested changes” immediately after each test item. Any of the comment spaces left blank will indicate that you feel that the test item should remain as it is presently.

Vocabulary Post-test

1. L’université reçoit beaucoup de _____ de grandes entreprises pour financer des programmes de maîtrise à l’université.
   a. cadeaux       d. récompenses
   b. pierres       e. dons
   c. habits        f. Je ne sais pas

Suggested changes: ____________________________________________________________

2. Les hivers commencent à être difficiles pour les animaux sauvages quand ils sortent du _____ pour chercher de la nourriture dans des villes voisines.
   a. bois       d. logis
   b. désert   e. pays
   c. terrain       f. Je ne sais pas

Suggested changes: ____________________________________________________________

3. Avant l’invention de l’eau courante à la maison, mes grands-parents devaient _____ de l’eau à la fontaine près de la maison.
   a. trouver       d. remplir
   b. verser       e. réaliser
   c. puiser       f. Je ne sais pas

Suggested changes: ____________________________________________________________

4. Puisque la jeune fille n’avait pas pu arrêter de mentir, la sorcière l’a maudite; alors, quand la jeune fille parlait il y avait des _____ qui sortaient de sa bouche.
   a. bijoux       d. rochers
   b. crapauds     e. habits
   c. diamants     f. Je ne sais pas

Suggested changes: ____________________________________________________________
5. Je/J’ _____ les haricots verts alors je les ai jettés à la poubelle.
   a. tolère       d. hais
   b. puise        e. accuse
   c. trouble      f. Je ne sais pas

Suggested changes: __________________________________________________________________

6. J’aime toutes les _____ précieuses, mais je préfère les rubis et les diamants.
   a. pierres       d. cruches
   b. fleurs        e. roches
   c. plantes       f. Je ne sais pas

Suggested changes: __________________________________________________________________

7. Ma camarade de chambre est renommée pour son/sa _____ parce qu’elle est calme et gentille avec tout le monde.
   a. cruche       d. timidité
   b. douceur      e. générosité
   c. amour        f. Je ne sais pas

Suggested changes: __________________________________________________________________

8. Avant d’accrocher la peinture sur le mur du salon, Jean a aidé sa sœur, Carole, en _____ la peinture pendant qu’elle regardait le placement de la peinture sur le mur pour la dernière fois.
   a. grondant     d. soutenant
   b. plaçant      e. gardant
   c. faisant      f. Je ne sais pas

Suggested changes: __________________________________________________________________

9. Avant la naissance de mes grands-parents, les hommes étaient responsables du jardinage alors que les femmes étaient responsables de faire la cuisine, le ménage, et aussi de chercher de l’eau avec une grande _____ à une fontaine loin de la maison.
   a. tasse        d. poêle
   b. pierre       e. cruches
   c. coupe        f. Je ne sais pas

Suggested changes: __________________________________________________________________

10. Les petites filles adorent mettre les _____ d’une princesse pour imaginer qu’un prince va les délivrer d’un méchant dragon.
    a. dons         d. pierres
    b. habits       e. tissus
    c. complets     f. Je ne sais pas

Suggested changes: __________________________________________________________________
11. Jean-Luc était très _____ devant son billet de loterie qui allait lui donner assez
d’argent pour payer toutes ses dettes.
   a. tué
   b. content
   c. optimiste
   d. étonné
   e. fâché
   f. Je ne sais pas

  Suggested changes: ____________________________________________________________

12. Le petit garçon ressemblait à son père de/d’ _____ mais ressemblait à sa mère par sa
   personnalité.
   a. haine
   b. âge
   c. humeur
   d. caractère
   e. visage
   f. Je ne sais pas

  Suggested changes: ____________________________________________________________

13. J’adore l’histoire de David et Goliath dans la Bible parce que David a tué le géant
   avec une toute petite _____.
   a. roche
   b. fleur
   c. pierre
   d. cruche
   e. perle
   f. Je ne sais pas

  Suggested changes: ____________________________________________________________

14. Puisque la famille était si pauvre, chaque soir la mère devait laver les seuls _____ que
    sa fille avait dans sa garde-robe pour avoir quelque chose à porter le lendemain à
    l’école.
   a. habits
   b. visages
   c. complets
   d. bijoux
   e. tailleurs
   f. Je ne sais pas

  Suggested changes: ____________________________________________________________

15. Je/J’ _____ mon père parce qu’il bat ma mère.
   a. aime
   b. tolère
   c. soutiens
   d. hais
   e. accuses
   f. Je ne sais pas

  Suggested changes: ____________________________________________________________

16. J’étais complètement _____ quand ma mère m’a dit que mon père était à l’hôpital à
    cause d’une crise cardiaque parce qu’il n’a jamais eu de problèmes de santé.
   a. orgueilleuse
   b. étonnée
   c. individualiste
   d. bête
   e. contente
   f. Je ne sais pas

  Suggested changes: ____________________________________________________________
17. On a cherché la fille perdue dans le _____ pendant des jours.
   a. logis
   b. bois
   c. flacon
   d. champs
   e. terrain
   f. Je ne sais pas

Suggested changes: ______________________________________________________

18. Tous les enfants ont ri quand ils ont entendu le grand croassement qui venait du _____ dans la poche du pantalon du petit garçon.
   a. crapaud
   b. serpent
   c. sifflet
   d. lézard
   e. bois
   f. Je ne sais pas

Suggested changes: ______________________________________________________

19. On pouvait voir la douleur de Marc dans l’expression de son _____.
   a. nez
   b. cou
   c. bras
   d. visage
   e. semblable
   f. Je ne sais pas

Suggested changes: ______________________________________________________

20. J’aime bien cette _____-là parce que je peux servir de l’eau à huit personnes à la fois.
   a. tasse
   b. fontaine
   c. cruche
   d. assiette
   e. formation
   f. Je ne sais pas

Suggested changes: ______________________________________________________

21. Les enfants préfèrent les couvertures en coton parce qu’ils aiment la _____ de ce tissu.
   a. cadette
   b. sympathie
   c. douceur
   d. considération
   e. serviabilité
   f. Je ne sais pas

Suggested changes: ______________________________________________________

22. Ma mère est bien reconnaissante des _____ qu’elle a reçus pendant sa vie, en particulier le pouvoir de pressentir les situations dangereuses.
   a. dons
   b. habits
   c. cadeau
   d. miracles
   e. avantages
   f. Je ne sais pas

Suggested changes: ______________________________________________________

23. Mon père a montré son affection pour ma mère en la _____ pendant des mois après la mort de sa sœur.
   a. grondant
   b. soutenant
   c. parlant
   d. courant
   e. pleurant
   f. Je ne sais pas

Suggested changes: ______________________________________________________
24. Lors de situations difficiles, je peux toujours _____ de la force dans l’exemple héroïque de mon père.
   a. sauver
   b. embaucher
   c. réaliser
   d. puiser
   e. attraper
   f. Je ne sais pas

*Suggested changes: _____________________________
Appendix Q

Evaluation of the Reading Passage Content

Objective
To compare the content of the original text written by Charles Perrault with the content of the modified versions adapted in order to meet the constraints of the Repetitive Textual Encounter (RTE) and Pictorial Encounter (PE) vocabulary learning techniques.

Instructions
1. Please read the original text by Charles Perrault
2. Read each modified text determining if the essential text content remains intact in comparison to the original text.
3. Rate each modified text according to the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>The content of the original text written by Charles Perrault remains completely intact in the modified text for Group A/B</td>
<td>1</td>
</tr>
<tr>
<td>The content of the original text written by Charles Perrault remains mostly intact in the modified text for Group A/B</td>
<td>2</td>
</tr>
<tr>
<td>The content of the original text written by Charles Perrault remains partially intact in the modified text for Group A/B</td>
<td>3</td>
</tr>
<tr>
<td>The content of the original text written by Charles Perrault doesn't remain intact at all in the modified text for Group A/B</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Justify your rating by making additional comments in the space provided immediately following each modified text rating.
Original Text by Charles Perrault

Il était une fois une veuve qui avait deux filles: l’aînée lui ressemblait si fort d’humeur et de visage, que, qui la voyait, voyait la mère. Elles étaient toutes deux si désagréables et si orgueilleuses, qu’on ne pouvait vivre avec elles. La cadette, qui était le vrai portrait de son père pour la douceur et l’honnêteté, était avec cela une des plus belles filles qu’on eût su voir. Comme on aime naturellement son semblable, cette mère était folle de sa fille aînée, et, en même temps avait une aversion effroyable pour la cadette. Elle la faisait manger à la cuisine et travailler sans cesse.

Il fallait, entre autres choses, que cette pauvre enfant allât, deux fois le jour, puiser de l’eau à une grande demi-lieue du logis, et qu’elle rapportât plein une grande cruche. Un jour qu’elle était à cette fontaine, il vint à elle une pauvre femme qui lui pria de lui donner à boire.

“Oui-dà, ma bonne mère,” dit cette belle fille; et, rinçant aussitôt sa cruche, elle puisa de l’eau au plus bel endroit de la fontaine et la lui présenta, soutenant toujours la cruche, afin qu’elle bût plus aisément. La bonne femme, ayant bu, lui dit: “Vous êtes si belle, si bonne et si honnête, que je ne puis m’empêcher de vous faire un don; car c’était une fée qui avait pris le forme d’une pauvre femme de village, pour voir jusqu’où irait l’honnêteté de cette jeune fille. Je vous donne pour don, poursuivit la fée, qu’à chaque parole que vous direz, il vous sortira de la bouche ou une fleur, ou une pierre précieuse.

Lorsque cette belle fille arriva au logis, sa mère la gronda de revenir si tard de la fontaine. “Je vous demande pardon, ma mère,” dit cette pauvre fille, d’avoir tardé si longtemps; et, en disant ces mots, il lui sortit de la bouche deux roses, deux perles et deux gros diamants. “Que vois-je là!” dit sa mère toute étonnée; “je crois qu’il lui sort de la bouche des perles et des diamants. D’où vient cela, ma fille?” (Ce fut là la première fois qu’elle l’appela sa fille.) La pauvre enfant lui raconta naïvement tout ce qui lui était arrivé, non sans jeter une infinité de diamants. “Vraiment,” dit la mère, “il faut que j’y envoie ma fille. Tenez, Fanchon, voyez ce qui sort de la bouche de votre sœur quand elle parle; ne seriez-vous pas bien aise d’avoir le même don? Vous n’avez qu’à aller puiser de l’eau à la fontaine, et, quand une pauvre femme vous demandera à boire, lui en donner bien honnêtement.” “Il me ferait beau voir,” répondit la brutale, “aller à la fontaine!” “Je veux que vous y alliez,” reprit la mère, “et tout à l’heure.”

Elle y alla, mais toujours en grondant. Elle prit le plus beau flacon d’argent qui fut au logis. Elle ne fut pas plus tôt arrivée à la fontaine, qu’elle vit sortir du bois une dame magnifiquement vêtue, qui vint lui demander à boire. C’était la même fée qui était apparue à sa sœur, mais qui avait pris l’air et les habits d’une princesse, pour voir jusqu’où irait la malhonnêteté de cette fille. “Est-ce que je suis ici venue,” lui dit cette brutale orgueilleuse, “pour vous donner à boire?” “Justement j’ai apporté un flacon d’argent tout exprès pour donner à boire à Madame! J’en suis d’avis: buvez à même si vous voulez.” “Vous n’êtes guère honnête,” reprit la fée, sans se mettre en colère. “Eh bien! puisque vous êtes si peu obligeante, je vous donne pour don qu’à chaque parole que vous direz, il vous sortira de la bouche ou un serpent, ou un crapaud.”
D’abord que sa mère l’aperçut, elle lui cria: “Eh bien! ma fille!” “Eh bien! ma mère!” lui répondit la brutale, en jetant deux vipères et deux crapauds. “O ciel,” s’écria la mère, “que vois-je là? C’est sa sœur qui est en cause: elle me le paiera;” et aussitôt elle courut pour la battre. La pauvre enfant s’enfuit et alla se sauver dans la forêt prochaine. Le fils du roi, qui revenait de la chasse, la rencontra et, la voyant si belle, lui demanda ce qu’elle faisait là toute seule et ce qu’elle avait à pleurer! “Hélas, Monsieur, c’est ma mère qui m’a chassée du logis.” Le fils du roi, qui vit sortir de sa bouche cinq ou six perles et autant de diamants, lui pria de lui dire d’où cela lui venait. Elle lui conta toute son aventure. Le fils du roi en devint amoureux; et, considérant qu’un tel don valait mieux que tout ce qu’on pouvait donner en mariage à une autre, l’emmena au palais du roi son père, où il l’épousa.

Pour sa sœur, elle se fit tant haïr, que sa propre mère la chassa de chez elle; et la malheureuse, après avoir bien couru sans trouver personne qui voulut la recevoir, alla mourir au coin d’un bois.
Il était une fois une veuve qui avait deux filles: l’aînée lui ressemblait si fort d’humeur et de visage, que quand on la voyait, on voyait la mère. Elles étaient toutes deux si désagréables et si orgueilleuses, que c’était impossible d’habiter avec elles. La cadette, qui était le vrai portrait de son père pour la douceur et l’honnêteté, était l’une des plus belles filles du monde. Comme on aime naturellement son semblable, cette mère adorait sa fille aînée, et, en même temps avait une aversion effroyable pour la cadette. La mère la faisait manger à la cuisine et travailler sans cesse.

Il était nécessaire, entre autres choses, que cette pauvre enfant allât, deux fois le jour, puiser de l’eau très loin de la maison, et qu’elle rapportât pleine d’eau une grande cruche. Un jour qu’elle était à cette fontaine, une pauvre femme est sortie du bois et elle a demandé à boire.

«Oui, ma bonne mère,» a dit cette belle fille avec la douceur et l’honnêteté de son père. Puis, la jeune fille a cherché de l’eau au plus bel endroit de la fontaine et lui a donné à boire en soutenant toujours le pichet pour aider la pauvre femme à boire plus aisément. La pauvre femme, après avoir bu, lui a dit: «Vous êtes si belle, si bonne et si honnête, que je ne peux pas m’empêcher de vous faire un don» ; car c’était une fée qui avait pris la forme d’une pauvre femme de village pour voir jusqu’où irait l’honnêteté de cette jeune fille. «Je vous donne pour don», a continué la fée, «qu’à chaque parole que vous allez dire, il va vous sortir de la bouche ou une fleur, ou une pierre précieuse».

Quand cette belle fille est arrivée au logis avec sa grande cruche pleine d’eau, sa mère était fâchée parce que la fille revenait si tard de la fontaine. «Je vous demande pardon, ma mère», a dit cette pauvre fille, «d’avoir tardé si longtemps» et, en disant ces mots, il lui est sorti de la bouche deux roses, deux perles et deux gros diamants. «Que vois-je là» ! a dit sa mère tout étonnée. «Je pense qu’il lui sort de la bouche des perles et des diamants. D’où vient cela, ma fille» ? (C’était là la première fois qu’elle l’appelait sa fille.) La pauvre enfant lui a raconté naïvement tout ce qui lui était arrivé, non sans jeter une infinité de diamants. «Vraiment», a dit la mère, «il est nécessaire d’envoyer ma fille à la fontaine. Tenez, Fanchon, (l’aînée qui ressemblait à la mère si fort d’humeur et de visage) voyez ce qui sort de la bouche de votre sœur quand elle parle. Ne seriez-vous pas bien heureuse d’avoir des fleurs et des pierres précieuses qui sortent de votre bouche? Vous n’avez qu’à aller chercher de l’eau à la fontaine, et, quand une pauvre femme va vous demander à boire, lui en donner bien honnêtement «Je ne veux pas aller à la fontaine», a répondu la méchante fille. «Je veux que vous y alliez», a dit la mère, «et tout de suite».

Elle y est allée, mais toujours en grommelant. Elle a pris avec elle le plus beau flacon d’argent qui était au logis. Au moment où l’aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue, et qui est venue lui demander à boire. C’était la même fée qui était apparue à sa sœur, mais qui avait pris l’air et les habits d’une princesse pour voir jusqu’où irait la malhonnêteté de cette fille. «Est-ce que je suis ici venue», lui a dit cette brutale orgueilleuse, «pour vous donner à boire? Justement, j’ai
apporté un flacon d’argent tout exprès pour donner à boire à Madame! Buvez à même si vous voulez». «Vous n’êtes guère honnête», a dit la fée, sans se fâcher. «Eh bien! Parce que vous êtes si peu obligeante, qu’à chaque parole que vous allez dire, il va vous sortir de la bouche ou un serpent, ou un crapaud».

Dès que la mère a vu l’aînée, elle lui a crié: «Eh bien, ma fille» ! «Eh bien, ma mère» ! lui a répondu la brutale, en jetant deux vipères et deux crapauds de la bouche. «O ciel» ! a crié la mère. «Que vois-je là? C’est sa sœur qui est en cause: elle va me le payer», et tout de suite la mère a voulu la battre. La pauvre enfant s’est enfuie et est allée se sauver dans la forêt prochaine. Le fils du roi, qui revenait de la chasse, l’a rencontrée et, la voyant si belle, lui a demandé pourquoi elle était là toute seule et pourquoi elle pleurait. «Hélas, Monsieur, c’est ma mère qui a voulu me battre et je me suis enfuie du logis». Le fils du roi, qui a vu sortir de sa bouche cinq ou six perles et autant de diamants, lui a demandé d’où cela lui venait. Elle lui a raconté toute son aventure. Le fils du roi est devenu amoureux de cette jeune fille, et l’a emmenée au palais du roi son père où il l’a épousée.

Pour sa sœur, tout le monde la haïssait tellement que sa mère l’a chassée de chez elle. Et cette malheureuse fille, sans trouver personne qui voulait la recevoir, est allée mourir au coin de la forêt.

**Evaluation of Content in Modified Text for Group A**

*Instructions*
Check your rating below for the content in modified text for Group A compared to the original text by Charles Perrault as determined by the following criteria:

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<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
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<td>The content of the original text written by Charles Perrault remains mostly intact in the modified text for Group A</td>
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<tr>
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<td>4</td>
</tr>
</tbody>
</table>

**Rating**

- □ 1
- □ 2
- □ 3
- □ 4

*Suggested changes* (use the back of this sheet if you need more room): _______________
Il était une fois une veuve qui avait deux filles: l’aînée lui ressemblait si fort d’humeur et de visage, et que quand on la voyait, on voyait la mère. Elles étaient toutes deux si désagréables et si orgueilleuses, que c’était impossible d’habiter avec elles. La cadette, qui était le vrai portrait de son père pour la douceur et l’honnêteté, était l’une des plus belles filles du monde. Comme on aime naturellement son semblable, cette mère adorait sa fille aînée, et, en même temps avait une aversion effroyable pour la cadette. La mère la faisait manger à la cuisine et travailler sans cesse.

Il était nécessaire, entre autres choses, que cette pauvre enfant allât, deux fois le jour, puiser de l’eau très loin de la maison, et qu’elle rapportât pleine d’eau une grande cruche. Un jour qu’elle était à cette fontaine, une pauvre femme y est venue et elle a demandé à la fille de lui donner à boire.

«Oui, ma bonne mère», a dit cette belle fille. Puis, la jeune fille a cherché de l’eau au plus bel endroit de la fontaine et lui a donné à boire en soutenant toujours le pichet pour aider la pauvre femme à boire plus aisément. La pauvre femme, après avoir bu, lui a dit: «Vous êtes si belle, si bonne et si honnête, que je ne peux pas m’empêcher de vous faire un don» ; car c’était une fée qui avait pris la forme d’une pauvre femme de village pour voir jusqu’où irait l’honnêteté de cette jeune fille. «À chaque parole que vous allez dire», a dit la fée, «il va vous sortir de la bouche ou une fleur, ou une pierre précieuse».

Quand cette belle fille est arrivée au logis, sa mère était fâchée parce que la fille revenait si tard de la fontaine. «Je vous demande pardon, ma mère», a dit cette pauvre fille, «d’avoir tardé si longtemps» et, en disant ces mots, il lui est sorti de la bouche deux roses, deux perles et deux gros diamants. «Que vois-je là!» a dit sa mère tout étonnée. «Je pense qu’il lui sort de la bouche des perles et des diamants. D’où vient cela, ma fille» ? (C’était là la première fois qu’elle l’appelait sa fille.) La pauvre enfant lui a raconté naïvement tout ce qui lui était arrivé, non sans jeter une infinité de diamants. «Vraiment», a dit la mère, «il est nécessaire d’envoyer ma fille à la fontaine. Tenez, Fanchon, voyez ce qui sort de la bouche de votre sœur quand elle parle. Ne seriez-vous pas bien heureuse d’avoir des choses précieuses qui sortent de votre bouche? Vous n’avez qu’à aller puiser de l’eau à la fontaine, et, quand une pauvre femme va vous demander à boire, lui en donner bien honnêtement en soutenant toujours le pichet d’eau pour l’aider à boire plus aisément». «Je ne veux pas aller à la fontaine», a répondu la méchante fille. «Je veux que vous y alliez», a dit la mère, «et tout de suite».

Elle y est allée, mais toujours en grommelant. Elle a pris avec elle le plus beau flacon d’argent qui était au logis. Au moment où l’aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue, et qui est venue lui demander à boire. C’était la même fée qui était apparue à sa sœur, mais qui avait pris l’air et les habits d’une princesse pour voir jusqu’où irait la malhonnêteté de cette fille. «Est-ce que je suis ici venue», lui a dit cette brutale orgueilleuse, «pour vous donner à boire? Justement, j’ai apporté un flacon d’argent tout exprès pour donner à boire à Madame! Buvez à même si vous voulez», «Vous n’êtes guère honnête», a dit la fée, sans se fâcher. «J’ai pris l’air et
les habits d’une princesse pour voir jusqu’où irait votre malhonnêteté. Eh bien! Parce que vous êtes si peu obligeante, qu’à chaque parole que vous allez dire, il va vous sortir de la bouche ou un serpent, ou un crapaud».

Dès que la mère a vu l’aînée, elle lui a crié: «Eh bien, ma fille!» ! «Eh bien, ma mère!» ! lui a répondu la brutale, en jetant deux vipères de la bouche. «O ciel! Que vois-je là!» ! a crié la mère tout étonnée. «C’est sa sœur qui est en cause: elle va me le payer;”» et tout de suite la mère a voulu la battre. La pauvre enfant s’est enfuie et est allée se sauver dans la forêt prochaine. Le fils du roi, qui revenait de la chasse, l’a rencontrée et, la voyant si belle, lui a demandé pourquoi elle était là toute seule et pourquoi elle pleurait. «Hélas, Monsieur, c’est ma mère qui m’a chassée du logis». Le fils du roi, qui a vu sortir de sa bouche cinq ou six perles et autant de diamants, lui a demandé d’où cela lui venait. Elle lui a raconté toute son aventure. Le fils du roi est devenu amoureux de cette jeune fille, et l’a emmenée au palais du roi son père où il l’a épousée.

Pour sa sœur, tout le monde la haïssait tellement que sa mère l’a chassée de chez elle. Et cette malheureuse fille, sans trouver personne qui voulait la recevoir parce que tout le monde la haïssait tellement, est allée mourir au coin de la forêt après avoir été chassée de chez elle.

Evaluation of Content in Modified Text for Group B

Instructions
Check your rating below for the content in modified text for Group B compared to the original text by Charles Perrault as determined by the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>The content of the original text written by Charles Perrault remains completely intact in the modified text for Group B</td>
<td>1</td>
</tr>
<tr>
<td>The content of the original text written by Charles Perrault remains mostly intact in the modified text for Group B</td>
<td>2</td>
</tr>
<tr>
<td>The content of the original text written by Charles Perrault remains partially intact in the modified text for Group B</td>
<td>3</td>
</tr>
<tr>
<td>The content of the original text written by Charles Perrault doesn’t remain intact at all in the modified text for Group B</td>
<td>4</td>
</tr>
</tbody>
</table>

Rating

☐ 1 ☐ 2 ☐ 3 ☐ 4

Suggested changes (use the back of this sheet if you need more room): ____________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
Appendix R

Evaluation of the French Language in the Modified Reading Passage

Objective
To determine that the French language used in the modified texts resembles authentic French.

Instructions
1. Please read each modified text.
2. Determine the level of authentic French used in each modified text.
3. Rate each modified text according to the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>The French language used in the modified reading passage for Group A/B completely resembles authentic French.</td>
<td>1</td>
</tr>
<tr>
<td>The French language used in the modified reading passage for Group A/B mostly resembles authentic French.</td>
<td>2</td>
</tr>
<tr>
<td>The French language used in the modified reading passage for Group A/B partially resembles authentic French.</td>
<td>3</td>
</tr>
<tr>
<td>The French language used in the modified reading passage for Group A/B does not resemble authentic French at all.</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Justify your rating by making additional comments in the space provided immediately following each modified text rating.
Il était une fois une veuve qui avait deux filles: l'aînée lui ressemblait si fort d'humeur et de visage, que quand on la voyait, on voyait la mère. Elles étaient toutes deux si désagréables et si orgueilleuses, que c'était impossible d'habiter avec elles. La cadette, qui était le vrai portrait de son père pour la douceur et l'honnêteté, était l'une des plus belles filles du monde. Comme on aime naturellement son semblable, cette mère adorait sa fille aînée, et, en même temps avait une aversion effroyable pour la cadette. La mère la faisait manger à la cuisine et travailler sans cesse.

Il était nécessaire, entre autres choses, que cette pauvre enfant allât, deux fois le jour, puiser de l'eau très loin de la maison, et qu'elle rapportât pleine d'eau une grande cruche. Un jour qu'elle était à cette fontaine, une pauvre femme est sortie du bois et elle a demandé à la fille de lui donner à boire.

«Oui, ma bonne mère», a dit cette belle fille avec la douceur et l'honnêteté de son père. Puis, la jeune fille a cherché de l'eau au plus bel endroit de la fontaine et lui a donné à boire en soutenant toujours le pichet pour aider la pauvre femme à boire plus aisément. La pauvre femme, après avoir bu, lui a dit: «Vous êtes si belle, si bonne et si honnête, que je ne peux pas m'empêcher de vous faire un don» ; car c'était une fée qui avait pris la forme d'une pauvre femme de village pour voir jusqu'où irait l'honnêteté de cette jeune fille. «Je vous donne pour don», a continué la fée, «qu'à chaque parole que vous allez dire, il va vous sortir de la bouche ou une fleur, ou une pierre précieuse».

Quand cette belle fille est arrivée au logis avec sa grande cruche pleine d'eau, sa mère était fâchée parce que la fille revenait si tard de la fontaine. «Je vous demande pardon, ma mère», a dit cette pauvre fille, «d'avoir tardé si longtemps» et, en disant ces mots, il lui est sorti de la bouche deux roses, deux perles et deux gros diamants. «Que vois-je là»! a dit sa mère tout étonnée. «Je pense qu'il lui sort de la bouche des perles et des diamants. D'où vient cela, ma fille»? (C'était là la première fois qu'elle l'appelait sa fille.) La pauvre enfant lui a raconté naïvement tout ce qui lui était arrivé, non sans jeter une infinité de diamants. «Vraiment», a dit la mère, «il est nécessaire d'envoyer ma fille à la fontaine. Tenez, Fanchon, (l'aînée qui ressemblait à la mère si fort d'humeur et de visage) voyez ce qui sort de la bouche de votre sœur quand elle parle. Ne seriez-vous pas bien heureuse d'avoir des fleurs et des pierres précieuses qui sortent de votre bouche? Vous n'avez qu'à aller chercher de l'eau à la fontaine, et, quand une pauvre femme va vous demander à boire, lui en donner bien honnêtement «Je ne veux pas aller à la fontaine», a répondu la méchante fille. «Je veux que vous y alliez», a dit la mère, «et tout de suite».

Elle y est allée, mais toujours en grommelant. Elle a pris avec elle le plus beau flacon d'argent qui était au logis. Au moment où l'aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue, et qui est venue lui demander à boire. C'était la même fée qui était apparue à sa sœur, mais qui avait pris l'air et les habits d'une princesse pour voir jusqu'où irait la malhonnêteté de cette fille. «Est-ce que je suis ici venue», lui a dit cette brutale orgueilleuse, «pour vous donner à boire? Justement, j'ai apporté un flacon d'argent tout exprès pour donner à boire à Madame! Buvez à même si vous
voulez». «Vous n'êtes guère honnête», a dit la fée, sans se fâcher. «Eh bien! Parce que vous êtes si peu obligeante, qu'à chaque parole que vous allez dire, il va vous sortir de la bouche ou un serpent, ou un crapaud».

Dès que la mère a vu l'aînée, elle lui a crié: «Eh bien, ma fille»! «Eh bien, ma mère»! lui a répondu la brutale, en jetant deux vipères et deux crapauds de la bouche. «O ciel»! a crié la mère. «Que vois-je là? C'est sa sœur qui est en cause: elle va me le payer», et tout de suite la mère a voulu la battre. La pauvre enfant s'est enfuie et est allée se sauver dans la forêt prochaine. Le fils du roi, qui revenait de la chasse, l'a rencontrée et, la voyant si belle, lui a demandé pourquoi elle était là toute seule et pourquoi elle pleurait. «Hélas, Monsieur, c'est ma mère qui a voulu me battre et je me suis enfuie du logis». Le fils du roi, qui a vu sortir de sa bouche cinq ou six perles et autant de diamants, lui a demandé d'où cela lui venait. Elle lui a raconté toute son aventure. Le fils du roi est devenu amoureux de cette jeune fille, et l'a emmenée au palais du roi son père où il l'a épousée.

Pour sa sœur, tout le monde la haïssait tellement que sa mère l'a chassée de chez elle. Et cette malheureuse fille, sans trouver personne qui voulait la recevoir, est allée mourir au coin de la forêt.

**Evaluation of the French Language in Modified Text for Group A**

*Instructions*

Check your rating below for the appropriate level of French language used in modified text for Group A as determined by the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>The French language used in the modified reading passage for Group A completely resembles authentic French.</td>
<td>1</td>
</tr>
<tr>
<td>The French language used in the modified reading passage for Group A mostly resembles authentic French.</td>
<td>2</td>
</tr>
<tr>
<td>The French language used in the modified reading passage for Group A partially resembles authentic French.</td>
<td>3</td>
</tr>
<tr>
<td>The French language used in the modified reading passage for Group A does not resemble authentic French at all.</td>
<td>4</td>
</tr>
</tbody>
</table>

**Rating**

☐ 1  ☐ 2  ☐ 3  ☐ 4

*Suggested changes* (use the back of this sheet if you need more room):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Il était une fois une veuve qui avait deux filles: l'aînée lui ressemblait si fort d'humeur et de visage, et que quand on la voyait, on voyait la mère. Elles étaient toutes deux si désagréables et si orgueilleuses, que c'était impossible d'habiter avec elles. La cadette, qui était le vrai portrait de son père pour la douceur et l'honnêteté, était l'une des plus belles filles du monde. Comme on aime naturellement son semblable, cette mère adorait sa fille aînée, et, en même temps avait une aversion effroyable pour la cadette. La mère la faisait manger à la cuisine et travailler sans cesse.

Il était nécessaire, entre autres choses, que cette pauvre enfant allât, deux fois le jour, puiser de l'eau très loin de la maison, et qu'elle rapportât pleine d'eau une grande cruche. Un jour qu'elle était à cette fontaine, une pauvre femme y est venue et elle a demandé à la fille de lui donner à boire.

«Oui, ma bonne mère», a dit cette belle fille. Puis, la jeune fille a cherché de l'eau au plus bel endroit de la fontaine et lui a donné à boire en soutenant toujours le pichet pour aider la pauvre femme à boire plus aisément. La pauvre femme, après avoir bu, lui a dit: «Vous êtes si belle, si bonne et si honnête, que je ne peux pas m'empêcher de vous faire un don» ; car c'était une fée qui avait pris la forme d'une pauvre femme de village pour voir jusqu'où irait l'honnêteté de cette jeune fille. «À chaque parole que vous allez dire», a dit la fée, «il va vous sortir de la bouche une fleur, ou une pierre précieuse».

Quand cette belle fille est arrivée au logis, sa mère était fâchée parce que la fille revenait si tard de la fontaine. «Je vous demande pardon, ma mère», a dit cette pauvre fille, «d'avoir tardé si longtemps» et, en disant ces mots, il lui est sorti de la bouche deux roses, deux perles et deux gros diamants. «Que vois-je là ! a dit sa mère tout étonnée. «Je pense qu'il lui sort de la bouche des perles et des diamants. D'où vient cela, ma fille» ? (C'était là la première fois qu'elle l'appelait sa fille.) La pauvre enfant lui a raconté naïvement tout ce qui lui était arrivé, non sans jeter une infinité de diamants. «Vraiment», a dit la mère, «il est nécessaire d'envoyer ma fille à la fontaine. Tenez, Fanchon, voyez ce qui sort de la bouche de votre sœur quand elle parle. Ne seriez-vous pas bien heureuse d'avoir des choses précieuses qui sortent de votre bouche? Vous n'avez qu'à aller puiser de l'eau à la fontaine, et, quand une pauvre femme va vous demander à boire, lui en donner bien honnêtement en soutenant toujours le pichet d'eau pour l'aider à boire plus aisément». «Je ne veux pas aller à la fontaine», a répondu la méchante fille. «Je veux que vous y alliez», a dit la mère, «et tout de suite».

Elle y est allée, mais toujours en grommelant. Elle a pris avec elle le plus beau flacon d'argent qui était au logis. Au moment où l'aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue, et qui est venue lui demander à boire. C'était la même fée qui était apparue à sa sœur, mais qui avait pris l'air et les habits d'une princesse pour voir jusqu'où irait la malhonnêteté de cette fille. «Est-ce que je suis ici venue», lui a dit cette brutale orgueilleuse, «pour vous donner à boire? Justement, j'ai apporté un flacon d'argent tout exprès pour donner à boire à Madame! Buvez à même si vous voulez», «Vous n'êtes guère honnête», a dit la fée, sans se fâcher. «J'ai pris l'air et les
habits d'une princesse pour voir jusqu'où irait votre malhonnêteté. Eh bien! Parce que vous êtes si peu obligeante, qu'à chaque parole que vous allez dire, il va vous sortir de la bouche ou un serpent, ou un crapaud».

Dès que la mère a vu l'aînée, elle lui a crié: «Eh bien, ma fille» ! «Eh bien, ma mère» ! lui a répondu la brutale, en jetant deux vipères de la bouche. «O ciel! Que vois-je là» ! a crié la mère tout étonnée. «C'est sa sœur qui est en cause: elle va me le payer;"» et tout de suite la mère a voulu la battre. La pauvre enfant s'est enfuie et est allée se sauver dans la forêt prochaine. Le fils du roi, qui revenait de la chasse, l'a rencontrée et, la voyant si belle, lui a demandé pourquoi elle était là toute seule et pourquoi elle pleurait. «Hélas, Monsieur, c'est ma mère qui m'a chassée du logis». Le fils du roi, qui a vu sortir de sa bouche cinq ou six perles et autant de diamants, lui a demandé d'où cela lui venait. Elle lui a raconté toute son aventure. Le fils du roi est devenu amoureux de cette jeune fille, et l'a emmenée au palais du roi son père où il l'a épousée.

Pour sa sœur, tout le monde la haïssait tellement que sa mère l'a chassée de chez elle. Et cette malheureuse fille, sans trouver personne qui voulait la recevoir parce que tout le monde la haïssait tellement, est allée mourir au coin de la forêt après avoir été chassée de elle.

Evaluation of the French Language in Modified Text for Group B

Instructions
Check your rating below for the appropriate level of French language used in modified text for Group B as determined by the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>The French language used in the modified reading passage for Group B completely resembles authentic French.</td>
<td>1</td>
</tr>
<tr>
<td>The French language used in the modified reading passage for Group B mostly resembles authentic French.</td>
<td>2</td>
</tr>
<tr>
<td>The French language used in the modified reading passage for Group B partially resembles authentic French.</td>
<td>3</td>
</tr>
<tr>
<td>The French language used in the modified reading passage for Group B does not resemble authentic French at all.</td>
<td>4</td>
</tr>
</tbody>
</table>

Rating

☐ 1  ☐ 2  ☐ 3  ☐ 4

Suggested changes (use the back of this sheet if you need more room): __________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Appendix S

Evaluation of the Senses of the Duplicated Target Words
**Objective:**

To compare and rate the meanings of the target words in each modified reading passage to determine that the target words presented using the Repetitive Textual Encounter (RTE) vocabulary learning technique maintains the same sense at each encounter.

**Instructions:**

Read the context for each target word.

1. Read the context for each target word.
2. Compare the meanings of the target words.
3. Determine the level of word meaning similarity for the target words.
4. Rate the contexts surrounding each target word according to the following criteria:

Both encounters of the target word _____.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>maintain the exact same word sense</td>
<td>1</td>
</tr>
<tr>
<td>mostly maintain the same word sense</td>
<td>2</td>
</tr>
<tr>
<td>partially maintain the same word sense</td>
<td>3</td>
</tr>
<tr>
<td>maintain a different word sense</td>
<td>4</td>
</tr>
<tr>
<td>maintain a different word meaning</td>
<td>5</td>
</tr>
</tbody>
</table>
For example, with the target word underlined:

<table>
<thead>
<tr>
<th>First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Second Context</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>One evening, instead of throwing the <strong>ball</strong> back and forth to his dad, Danny was in his room studying for his math test the next day.</td>
<td>An object thrown back and forth between two people for enjoyment</td>
<td>1</td>
</tr>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>One evening, instead of tossing the <strong>ball</strong> to his dad, Danny was in his room studying for his math test the next day.</td>
<td>An object tossed from one person to another for enjoyment</td>
<td>2</td>
</tr>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>Danny also loved to throw the <strong>ball</strong> and have his dog chase it.</td>
<td>An object thrown and then retrieved by a dog</td>
<td>3</td>
</tr>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>It was a traumatic day when Danny popped his new <strong>ball</strong> on a nail as he was bouncing it on the way to school.</td>
<td>An object that can be deflated of air by a nail while bouncing</td>
<td>4</td>
</tr>
<tr>
<td>Every evening after dinner, Danny and his dad threw the <strong>ball</strong> back and forth.</td>
<td>An object thrown for enjoyment</td>
<td>As a senior in high school, Danny finally had the chance to ask his dream date to the school <strong>ball</strong>.</td>
<td>A place where one can take a dream date</td>
<td>5</td>
</tr>
</tbody>
</table>

5. Justify your rating by making additional comments in the space provided immediately following each target word meaning rating.

Note: Because of limited space, evaluate the word senses according to the criteria illustrated on the previous page.
<table>
<thead>
<tr>
<th>1. First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>...l’aînée lui ressemblait si fort d’humeur et de visage, que quand on la voyait, on voyait la mère.</td>
<td>A physical characteristic</td>
<td>Tenez, Fanchon, (l’aînée qui ressemblait à la mère si fort d’humeur et de visage)...</td>
<td>A physical characteristic</td>
<td>&quot; &quot;</td>
</tr>
</tbody>
</table>

Justification: __________________________

<table>
<thead>
<tr>
<th>2. First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>La cadette, qui était le vrai portrait de son père pour la douceur et l’honnêteté, était l’une des plus belles filles du monde.</td>
<td>A personality characteristic</td>
<td>«Oui, ma bonne mère,» a dit cette belle fille avec la douceur et l’honnêteté de son père.</td>
<td>A personality characteristic</td>
<td>&quot; &quot;</td>
</tr>
</tbody>
</table>

Justification: __________________________

<table>
<thead>
<tr>
<th>3. First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Il était nécessaire… que cette pauvre enfant allât, deux fois le jour, puiser de l’eau à la fontaine…</td>
<td>Drawing out water</td>
<td>Vous n’avez qu’à aller puiser de l’eau à la fontaine,…</td>
<td>Drawing out water</td>
<td>&quot; &quot;</td>
</tr>
</tbody>
</table>

Justification: __________________________
<table>
<thead>
<tr>
<th>4 First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>…qu’elle rapportât pleine d’eau une grande cruche.</td>
<td>Something big that’s full of water</td>
<td>Quand cette belle fille est arrivée au logis avec sa grande cruche pleine d’eau,…</td>
<td>Something big that’s full of water</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Justification: ________________________________________________________________________________________________________________

<table>
<thead>
<tr>
<th>5. First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>…lui a donné à boire en soutenant toujours la cruche pour la pauvre femme pour l’aider à boire plus aisément.</td>
<td>Physically holding up something</td>
<td>«…quand une pauvre femme va vous demander à boire lui en donner bien gentiment en soutenant toujours la pichet d’eau pour l’aider à boire plus aisément.»</td>
<td>Physically holding up something</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Justification: ________________________________________________________________________________________________________________

<table>
<thead>
<tr>
<th>6. First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«…je ne peux pas m'empêcher de vous faire un don; » car c'était une fée qui avait pris la forme d'une pauvre femme de village pour voir jusqu'où irait la gentillesse de cette jeune fille...il va vous sortir de la bouche ou une fleur,...»</td>
<td>A tangible gift given from a fairy when you do something nice for her</td>
<td>«Je vous donne pour don,» a continué la fée, « qu'à chaque parole que vous allez dire, il va vous sortir de la bouche ou une fleur,...»</td>
<td>A tangible gift given from a fairy</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Justification: ________________________________________________________________________________________________________________
<table>
<thead>
<tr>
<th>7. First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«...il va vous sortir de la bouche ou une fleur, ou une pierre précieuse. »… « Je pense qu'il lui sort de la bouche des perles et des diamants. »</td>
<td>Something precious</td>
<td>«...Ne seriez-vous pas bien heureuse d'avoir des fleurs et des pierres précieuses qui sortent de votre bouche? »</td>
<td>Something precious</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

**Justification:** ________________________________________________________________________________________________________________

<table>
<thead>
<tr>
<th>8. First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>« Que vois-je là! » a dit sa mère tout étonnée. « Je pense qu'il lui sort de la bouche des perles et des diamants. »</td>
<td>A reaction when one is amazed to what one is seeing</td>
<td>« Eh bien, ma mère! » lui a répondu la brutale, en jetant deux vipères de sa bouche. « O ciel! Que vois-je là! » a crié la mère tout étonnée.</td>
<td>A reaction when one is amazed to what one is seeing</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

**Justification:** ________________________________________________________________________________________________________________

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Au moment où l'aînée est arrivée à la fontaine... elle a vu sortir du bois une dame magnifiquement vêtue, et qui est venue lui demander à boire.</td>
<td>Something out of which one can come that's near a fountain</td>
<td>Un jour qu'elle était à cette fontaine, une pauvre femme est sortie du bois et elle a demandé à la fille de lui donner à boire.</td>
<td>Something out of which one can come that's near a fountain</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5</td>
</tr>
</tbody>
</table>

**Justification:** ________________________________________________________________________________________________________________
<table>
<thead>
<tr>
<th>10. First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C'était la même fée qui était apparue à sa sœur, mais qui avait pris l'air et les habits d'une princesse...</td>
<td>Something that a princess would have.</td>
<td>«J'ai pris l'air et les habits d'une princesse pour voir jusqu'où irait votre malhonnêteté.»</td>
<td>Something that a princess would have.</td>
<td>□ 1  □ 2  □ 3  □ 4  □ 5</td>
</tr>
</tbody>
</table>

Justification: ________________________________________________________________________________________________________________

<table>
<thead>
<tr>
<th>11. First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>«… à chaque parole que vous allez dire, il va vous sortir de la bouche ou un serpent, ou un crapaud.»</td>
<td>Something that may come out of one's mouth when speaking that accompanies a snake</td>
<td>«Éh bien, ma mère! » lui a répondu la brutale, en jetant deux vipères et deux crapauds de la bouche.</td>
<td>Something that may come out of one's mouth when speaking that accompanies a snake</td>
<td>□ 1  □ 2  □ 3  □ 4  □ 5</td>
</tr>
</tbody>
</table>

Justification: ________________________________________________________________________________________________________________

<table>
<thead>
<tr>
<th>12. First Context of Target Word</th>
<th>Word Sense of Target Word in First Context</th>
<th>Second Context of Target Word</th>
<th>Word Sense of Target Word in Vocabulary Pretest</th>
<th>Rating (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pour sa sœur, tout le monde la haïssait tellement que sa mère l'a chassée de chez elle.</td>
<td>A reason for kicking someone out of the house</td>
<td>Et cette malheureuse fille, sans trouver personne qui voulait la recevoir parce que tout le monde la haïssait tellement, est allée mourir au coin de la forêt après avoir été chassée de elle.</td>
<td>A reason for kicking someone out of the house</td>
<td>□ 1  □ 2  □ 3  □ 4  □ 5</td>
</tr>
</tbody>
</table>

Justification: ________________________________________________________________________________________________________________
Appendix T

Evaluation of the Contextual Clues Surrounding the Target Words
**Objective:**

To determine which target words are found in contexts with salient factors as opposed to contexts with opaque factors. A context with salient factors is one that maintains many contextual clues surrounding a target word to enable the participants to acquire the word’s meaning more effectively than a context with opaque factors.

**Instructions:**

1. Read the context surrounding each target word.
2. Determine the amount of contextual clues contributing to vocabulary development.
3. Rate each context according to the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>The context contains several salient factors</td>
<td>1</td>
</tr>
<tr>
<td>The context contains a few salient factors</td>
<td>2</td>
</tr>
<tr>
<td>The context contains a few opaque factors</td>
<td>3</td>
</tr>
<tr>
<td>The context contains several opaque factors</td>
<td>4</td>
</tr>
</tbody>
</table>

*For example,* with the target word underlined:

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Le jardinier remplit <em>un arrosoir</em> pour donner de l’eau aux</td>
<td>1</td>
</tr>
<tr>
<td>Le jardinier remplit <em>un arrosoir</em> pour finir son travail.</td>
<td>2</td>
</tr>
<tr>
<td>Je remplis <em>un arrosoir</em> pour finir mon travail.</td>
<td>3</td>
</tr>
<tr>
<td>Je cherche <em>un arrosoir</em> pour finir mon travail.</td>
<td>4</td>
</tr>
</tbody>
</table>

*Note:* Because of limited space, evaluate the word senses according to the criteria illustrated on this page.
<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. …l’aînée lui ressemblait si fort d’humeur et de visage, que quand on la voyait, on voyait la mère.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>2. La cadette, qui était le vrai portrait de son père pour la douceur et la gentillesse, était l’une des plus belles filles du monde.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>3. Il était nécessaire... que cette pauvre enfant allât, deux fois le jour, puiser de l’eau à la fontaine...</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>4. ...et qu’elle rapportât pleine d’eau une grande cruche.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>5. …en soutenant toujours la cruche pour la pauvre femme pour l’aider à boire plus aisément.</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>6. «…je ne peux pas m’empêcher de vous faire un don…il va vous sortir de la bouche ou une fleur,...»</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>Reading Passage Context</td>
<td>Rating</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>7. «...il va vous sortir de la bouche ou une fleur, ou une pierre précieuse.»... «Je pense qu’il lui sort de la bouche des perles et des diamants.»</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>8. «Que vois-je là!» a dit sa mère tout étonnée. «Je pense qu’il lui sort de la bouche des perles et des diamants.»</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>9. Au moment où l’aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue,...</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>10. C’était la même fée qui était apparue à sa sœur, mais qui avait pris l’air et les habits d’une princesse...</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>11. « ... à chaque parole que vous allez dire, il va vous sortir de la bouche ou un serpent, ou un crapaud.»</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>12. Pour sa sœur, tout le monde la haïssait tellement que sa mère l’a chassée de chez elle.</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>
Appendix U

Evaluation of the Concreteness of the Target Word Senses
Objective:
To determine the level of concreteness of the Target Word Meanings

Note: The idea of concreteness or abstractness of word meanings as it relates to the proposed vocabulary learning study correlates specifically to the ability to represent the meaning of the target words according to the context of the reading passage as pictorial images.

Instructions:
1. Read the context for each target word.
2. Determine the level of concreteness, or abstractness, for the meaning of each target word.
3. Rate each target word according to the following criteria:

The meaning of the target word in the context of the reading passage is _____.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>very concrete</td>
<td>1</td>
</tr>
<tr>
<td>somewhat concrete</td>
<td>2</td>
</tr>
<tr>
<td>somewhat abstract</td>
<td>3</td>
</tr>
<tr>
<td>very abstract</td>
<td>4</td>
</tr>
</tbody>
</table>
For example, with the target word underlined:

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Le jardinier remplit un arrosoir pour donner de l’eau aux</td>
<td>1</td>
</tr>
<tr>
<td>Le jardinier remplit un arrosoir pour finir son travail.</td>
<td>2</td>
</tr>
<tr>
<td>Je remplis un arrosoir pour finir mon travail.</td>
<td>3</td>
</tr>
<tr>
<td>Je cherche un arrosoir pour finir mon travail.</td>
<td>4</td>
</tr>
</tbody>
</table>

4. Justify your rating by making additional comments in the space provided immediately following each target word

*For example:* Justification: The word “ball” is rated a “1” because it would be easy to portray its meaning in picture form. The word “embarrassed” is rated a “2” since it is a little bit more difficult to depict in a pictorial image than the word “ball” but it still can be done. The word “happiness” is rated a “3” because its exact meaning would be more difficult to illustrate pictorially than the meaning of “embarrassed,” but not entirely impossible. The word “wise” is rated a “4” since it would be very difficult to portray in picture form.

*Note:* Because of limited space, evaluate the word senses according to the criteria illustrated on the previous page.
<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ...l’aînée lui ressemblait si fort d’humeur et de <em>visage</em>, que quand on la voyait, on voyait la mère.</td>
<td>□ 1</td>
</tr>
<tr>
<td></td>
<td>□ 2</td>
</tr>
<tr>
<td></td>
<td>□ 3</td>
</tr>
<tr>
<td></td>
<td>□ 4</td>
</tr>
</tbody>
</table>

*Justification: ____________________________

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. La cadette, qui était le vrai portrait de son père pour la <em>douceur</em> et la <em>gentillesse</em>, était l’une des plus belles filles du monde.</td>
<td>□ 1</td>
</tr>
<tr>
<td></td>
<td>□ 2</td>
</tr>
<tr>
<td></td>
<td>□ 3</td>
</tr>
<tr>
<td></td>
<td>□ 4</td>
</tr>
</tbody>
</table>

*Justification: ____________________________

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Il était nécessaire… que cette pauvre enfant allât, deux fois le jour, <em>pousser</em> de l’eau à la fontaine…</td>
<td>□ 1</td>
</tr>
<tr>
<td></td>
<td>□ 2</td>
</tr>
<tr>
<td></td>
<td>□ 3</td>
</tr>
<tr>
<td></td>
<td>□ 4</td>
</tr>
</tbody>
</table>

*Justification: ____________________________
<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. ...qu’elle rapportât pleine d’eau une grande <strong>cruche</strong>.</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4</td>
</tr>
</tbody>
</table>

*Justification: ________________________________|

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. ...lui a donné à boire en <strong>soutenant</strong> toujours la cruche pour la pauvre femme pour l'aider à boire plus aisément.</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4</td>
</tr>
</tbody>
</table>

*Justification: ________________________________|

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. «...je ne peux pas m'empêcher de vous faire un <strong>don</strong>; » car c'était une fée qui avait pris le forme d'une pauvre femme de village pour voir jusqu'où irait la gentillesse de cette jeune fille...«il va vous sortir de la bouche ou une fleur,...»</td>
<td>☐ 1 ☐ 2 ☐ 3 ☐ 4</td>
</tr>
</tbody>
</table>

*Justification: ________________________________|
### Reading Passage Context

<table>
<thead>
<tr>
<th>7. «...il va vous sortir de la bouche ou une fleur, ou une pierre précieuse. »... «Je pense qu'il lui sort de la bouche des perles et des diamants.»</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ 1</td>
</tr>
<tr>
<td></td>
<td>□ 2</td>
</tr>
<tr>
<td></td>
<td>□ 3</td>
</tr>
<tr>
<td></td>
<td>□ 4</td>
</tr>
</tbody>
</table>

Justification: __________________________________________________________________________________________

### Reading Passage Context

<table>
<thead>
<tr>
<th>8. «Que vois-je là! » a dit sa mère tout étonnée. «Je pense qu'il lui sort de la bouche des perles et des diamants.»</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ 1</td>
</tr>
<tr>
<td></td>
<td>□ 2</td>
</tr>
<tr>
<td></td>
<td>□ 3</td>
</tr>
<tr>
<td></td>
<td>□ 4</td>
</tr>
</tbody>
</table>

Justification: __________________________________________________________________________________________

### Reading Passage Context

<table>
<thead>
<tr>
<th>9. Au moment où l'aînée est arrivée à la fontaine... elle a vu sortir du bois une dame magnifiquement vêtue, et qui est venue lui demander à boire.</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ 1</td>
</tr>
<tr>
<td></td>
<td>□ 2</td>
</tr>
<tr>
<td></td>
<td>□ 3</td>
</tr>
<tr>
<td></td>
<td>□ 4</td>
</tr>
</tbody>
</table>

Justification: __________________________________________________________________________________________
<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. C'était la même fée qui était apparue à sa sœur, mais qui avait pris l'air et les <strong>habits</strong> d'une princesse...</td>
<td>□ 1 □ 2 □ 3 □ 4</td>
</tr>
</tbody>
</table>

*Justification:*

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. « … à chaque parole que vous allez dire, il va vous sortir de la bouche ou un serpent, ou un <strong>crapaud</strong>. »</td>
<td>□ 1 □ 2 □ 3 □ 4</td>
</tr>
</tbody>
</table>

*Justification:*

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. Pour sa sœur, tout le monde la <strong>haïssait</strong> tellement que sa mère l'a chassée de chez elle.</td>
<td>□ 1 □ 2 □ 3 □ 4</td>
</tr>
</tbody>
</table>

*Justification:*
Appendix V

Evaluation of the Pictorial Images
Objective:
To rank each pictorial image in order of best to worst visual representation of the target word in the context of the reading passage.

Instructions:
1. Rank each pictorial image in descending order according to the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pictorial image that most closely portrays the meaning of the target word in the context of the reading passage.</td>
<td>1</td>
</tr>
<tr>
<td>The pictorial image that least closely portrays the meaning of the target word in the context of the reading passage.</td>
<td>4</td>
</tr>
</tbody>
</table>

2. Justify your rankings by making additional comments in the space provided immediately following each target word meaning rating as shown in the example below.

Note: Because of limited space, evaluate the word senses according to the criteria illustrated on this page.
"For example, with the target word is underlined:

<table>
<thead>
<tr>
<th>Reading Passage Context</th>
<th>Every evening after dinner, Danny and his dad threw the ball back and forth</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="https://www.house.gov" alt="Clipart Ball" /></td>
<td>Rank 3</td>
</tr>
<tr>
<td><img src="https://www.house.gov" alt="Image of Dad Throwing Ball" /></td>
<td>Rank 2</td>
</tr>
<tr>
<td><img src="https://www.philippe-berry.com" alt="Clipart Football" /></td>
<td>Rank 4</td>
</tr>
<tr>
<td><img src="https://www.philippe-berry.com" alt="Clipart Dehydrated Ball" /></td>
<td></td>
</tr>
</tbody>
</table>

**Justification:** Picture B most closely portrays the meaning of the target word in the context of the reading passage because it actually shows the dad throwing the ball. Picture C is ranked next because it depicts a ball that is typically thrown. Picture A illustrates the prototypical ball but probably wouldn’t be thrown as often as the ball in picture C. Picture D shows a deflated ball and wouldn’t be thrown at all.
1. Reading Passage Context

…l’aînée lui ressemblait si fort d’humeur et de visage, que quand on la voyait, on voyait la mère.

<table>
<thead>
<tr>
<th>A.</th>
<th>B.</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="https://www.axelle-red.com/fr" alt="Image A" /></td>
<td>![Image B](clipart image)</td>
</tr>
<tr>
<td>Rank</td>
<td>Rank</td>
</tr>
<tr>
<td>☐ 1</td>
<td>☐ 1</td>
</tr>
<tr>
<td>☐ 2</td>
<td>☐ 2</td>
</tr>
<tr>
<td>☐ 3</td>
<td>☐ 3</td>
</tr>
<tr>
<td>☐ 4</td>
<td>☐ 4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C.</th>
<th>D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Image C](clipart image)</td>
<td>![Image D](clipart image)</td>
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</tbody>
</table>

*Justification:*
<table>
<thead>
<tr>
<th>2. Reading Passage Context</th>
<th>La cadette, qui était le vrai portrait de son père pour la douceur et l’honnêteté, était l’une des plus belles filles du monde.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>B.</td>
</tr>
<tr>
<td>clipart image</td>
<td>personal image</td>
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<tr>
<td>© <a href="http://bigbellyservices.com">http://bigbellyservices.com</a></td>
<td>© <a href="http://www.marshasummers.com">www.marshasummers.com</a></td>
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**Justification:**
<table>
<thead>
<tr>
<th>3. Reading Passage Context</th>
<th>Il était nécessaire... que cette pauvre enfant allât, deux fois le jour, puiser de l’eau à la fontaine...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A.</strong></td>
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<td><strong>B.</strong></td>
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<td><strong>C.</strong></td>
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</table>

**Justification:**
4. Reading Passage Context

...et qu’elle rapportât pleine d’eau une grande **cruche**.

<table>
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<tr>
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<tbody>
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<td>D.</td>
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</table>

*Justification:____________________________________________________________________________
5. Reading Passage Context  

…en soutenant toujours la cruche pour la pauvre femme pour l’aider à boire plus aisément.

<table>
<thead>
<tr>
<th>A.</th>
<th>Rank</th>
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</tbody>
</table>

**Justification:**

__________
### Reading Passage Context

«...je ne peux pas m’empêcher de vous faire un **don**...il va vous sortir de la bouche ou une fleur,...»

<p>| | | |</p>
<table>
<thead>
<tr>
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<tbody>
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<tbody>
<tr>
<td><strong>C.</strong></td>
<td><strong>D.</strong></td>
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</table>

**Justification:**

(List of reasons for the ranking choices)
### 7. Reading Passage Context

<table>
<thead>
<tr>
<th>Image</th>
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<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Personal Image" /></td>
<td></td>
<td>«...il va vous sortir de la bouche ou une fleur, ou une pierre précieuse.»... «Je pense qu’il lui sort de la bouche des perles et des diamants.»</td>
</tr>
</tbody>
</table>

A. ![Personal Image](image.png)  
B. ![Clipart Image](image.png)  
C. ![Clipart Image](image.png)  
D. ![Clipart Image](image.png)

**Rank**:
- 1
- 2
- 3
- 4

**Justification:**
«Que vois-je là!» a dit sa mère tout étonnée. «Je pense qu’il lui sort de la bouche des perles et des diamants.»

<table>
<thead>
<tr>
<th>A.</th>
<th>Rank</th>
<th>B.</th>
<th>Rank</th>
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</thead>
<tbody>
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</tbody>
</table>

Justification:
<table>
<thead>
<tr>
<th>9. Reading Passage Context</th>
<th>Au moment où l’aînée est arrivée à la fontaine, elle a vu sortir du bois une dame magnifiquement vêtue,…</th>
</tr>
</thead>
</table>
| A.                       | ![Image of trees](clipart image)  
| **Rank**                 | 1 2 3 4 |
| B.                       | ![Image of grassland](clipart image)  
| **Rank**                 | 1 2 3 4 |
| C.                       | ![Image of autumn trees](clipart image)  
| **Rank**                 | 1 2 3 4 |
| D.                       | ![Image of trees](clipart image)  
| **Rank**                 | 1 2 3 4 |

**Justification:**
10. Reading Passage Context

<table>
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<th>Rank</th>
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<th>C.</th>
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</tbody>
</table>

C’était la même fée qui était apparue à sa sœur, mais qui avait pris l’air et les habits d’une princesse...

Justification: ___________________________________________________________________________________________
### 11. Reading Passage Context

« ... à chaque parole que vous allez dire, il va vous sortir de la bouche ou un serpent, ou un crapaud. »

<table>
<thead>
<tr>
<th>A.</th>
<th>B.</th>
<th>C.</th>
<th>D.</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="http://toadstool.se/photos" alt="Image A" /></td>
<td><img src="http://joster.bumr.net/" alt="Image B" /></td>
<td>![Image C](clipart image)</td>
<td>![Image D](clipart image)</td>
</tr>
</tbody>
</table>

#### Rank
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- □ 2
- □ 3
- □ 4

#### Rank
- □ 1
- □ 2
- □ 3
- □ 4

### Justification:

[Your justification here]
Pour sa sœur, tout le monde la haïssait tellement que sa mère l’a chassée de chez elle.

<table>
<thead>
<tr>
<th>12. Reading Passage Context</th>
<th>Pour sa sœur, tout le monde la haïssait tellement que sa mère l’a chassée de chez elle.</th>
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<tr>
<td>![Image B](personal image)</td>
<td>Rank</td>
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<tr>
<td>![Image C](© <a href="http://www.jsun.org">www.jsun.org</a>)</td>
<td>Rank</td>
</tr>
<tr>
<td>![Image D](clipart image)</td>
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**Justification:** ___________________________________________________________________________________________