IN SEARCH OF CONNECTIONS BETWEEN THE ACQUISITION OF LEXICAL PHRASES AND AUTONOMY, MOTIVATION, AND WORKING MEMORY ABILITY.

Cristina Garabito

A Thesis

in

The Department of Education

Presented in Partial Fulfillment of the Requirements
for the Degree of Master of Arts at
Concordia University
Montreal, Quebec, Canada

August 2011

CONCORDIA UNIVERSITY

School of Graduate Studies

This is to certify that the thesis prepared

By: **Cristina Alejandra Garabito Campos**

Entitled: **In search of connections between the acquisition of lexical phrases and autonomy, motivation, and working memory ability**

and submitted in partial fulfillment of the requirements for the degree of

Master of Arts (Applied Linguistics)

complies with the regulations of this University and meets the accepted standards with respect to originality and quality.

Signed by the final examining committee:

Walcir Cardoso
_____ Chair

Pavel Trofimovich
_____ Examiner

Beth Gatbonton
_____ Examiner

Joanna White
_____ Supervisor

Approved Pavel Trofimovich
_____
Chair of Department or Graduate Program Director

Brian Lewis
_____
Dean of Faculty

Date August 29, 2011

Abstract

In Search For Connections Between The Acquisition Of Lexical Phrases and Autonomy, Motivation, and Working Memory Ability.

Cristina Garabito Campos

With a few exceptions, recent research on individual differences and on formulaic language has not prioritized the study of the variables that may be associated with the acquisition of chunks. This void in the literature is surprising considering the growing scholarly interest that has been demonstrated in both areas. The current study intends to contribute to this field by investigating the possible associations between the acquisition of ten target lexical phrases (one of Nattinger and DeCarrico's (1992) categories of formulaic language) and three learner variables, namely motivation, autonomy, and working memory capacity. It drew largely on the research conducted by Schmitt, Dörnyei, Adolphs, and Durrow (2004) and by Dörnyei, Durrow, and Zahran (2004).

Participants were 32 CEGEP students who completed two questionnaires and two language tests. They also took a reading span test and participated in one individual interview. The data gathered were analysed qualitatively and quantitatively in order to answer four research questions, which addressed the association between the acquisition of a number of target lexical phrases and motivation, learner autonomy, and working memory ability. The quantitative analyses did not reveal any of the hypothesized relationships between the acquisition of the targets and these learner variables. However, the qualitative analyses suggest that autonomy, measured in terms of reported performance of the so-called *Autonomous Language Learning Behaviours* (ALLB) is associated with gains in the knowledge of the targets. They also reveal that self-determined motivations for L2 learning can be associated with the performance of ALLBs. These findings seem to support the conclusion that that there is no linear relationship between formulaic language acquisition and motivation, suggesting that ALLBs act as mediator between them. These results indicate that L2 classrooms should foster autonomy in the form of ALLBs.

ACKNOWLEDGEMENTS

I thank my advisor, Dr. Joanna White, for her encouragement during the long process of writing this thesis. But most importantly, I thank her for her kindness and her respect for my work and decisions. I also thank Randall Halter for his precious help with statistics and technical terminology. He went out of his way to help me with the quantitative analyses on repeated occasions, and for this, I am indebted to him. I express my gratitude to my thesis committee members, Dr. Pavel Trofimovich and Dr. Elizabeth Gatbonton, for their assistance with this research project. My thanks also go to all the people who in one way or another contributed to this thesis: my colleagues at Collège de Rosemont who helped me with questionnaire piloting and proofreading, and my friend Pablo Magaña who helped me with all computer-related issues. Last, but not least, I express my love and gratitude to my husband, Steve, and children, Fabiana and Rafael, for their support and patience, and to my mother for her infinite love and encouragement.

DEDICATION

This thesis is dedicated to all the people who have helped me in my academic and professional path. They are many, and they are in different parts of the world, but they know that I am very graceful to them for their love, help, and encouragement.

TABLE OF CONTENTS

LIST OF TABLES ……..... x

CHAPTER I, THE INTRODUCTION ……1

1.1 Formulaicity and idiomaticity ……....…….....1

1.2 Formulaic language in the L2 classroom ……....……... 3

1.3 The issue of formulaic language acquisition ……....……. 4

CHAPTER II, DEFINITION OF CONSTRUCTS …….. 6

2.1 Autonomy and Autonomous Language Learning Behaviours (ALLB) 6

2.2 Motivation and Self-Determination Theory (SDT) 8

2.3 Lexical Phrases .....……..... 9

2.4 Working memory capacity 12

CHAPTER III, LITERATURE REVIEW 14

3.1 Background 14

3.2 Review of pertinent literature 16

3.2.1 Individual differences and formulaic language acquisition 17

3.2.2 Social adaptation and formulaic language acquisition 19

3.2.3 Individual differences and L2 memorization 21

3.2.4 The case of Wes and formulaic language use 23

3.2.5 Self-Determination Theory and L2 learning 25

3.2.6 Schumann's Acculturation Model for SLA 28

3.3 Conclusion 30

3.4 Research questions 32

CHAPTER IV, RESEARCH METHODOLOGY 36

4.1 Differences between this study and Schmitt et al.'s (2004) 36
4.2 Context of the study 38
4.3 Participants 39
4.3.1 Mother tongue 39
4.3.2 Language(s) spoken at home 39
4.3.3 L2(s) spoken 40
4.3.4 Parents' L1 40
4.3.5 Education 40
4.3.6 ESL instruction 41
4.4 Instruments 41
4.4.1 Productive measure of lexical phrases 41
4.4.2 Self-Determination questionnaire 42
4.4.3 Autonomous Language Learning Behaviours questionnaire 43
4.4.4 Receptive measure 44
4.4.5 Working memory measure 45
4.4.6 Interview 46
4.5 Measure administration 47
4.6 Selection of the lexical phrases 48
4.7 Treatment 49
CHAPTER V, DATA ANALYSES, RESULTS AND DISCUSSION 52
5.1 Quantitative data analyses 52
5.1.1 Introduction 52
5.1.2 Prior knowledge of the target lexical phrases 53

5.1.3 Analysing receptive and productive gains 54
5.1.4 Answers to the research questions 56
5.1.4.1 Research question #2 56
5.1.4.2 Research question #3 59
5.1.4.3 Research question #4 60
5.1.5 Conclusion of quantitative results and discussion 61
5.2 Qualitative data analyses 62
5.2.1 Introduction 62
5.2.2 Gains, levels of self-determination, and performance of ALLBs 64
5.2.2.1 Successful cases 64
5.2.2.2 Non-successful cases 75
5.2.3 Generalizations gleaned from the participants' description 82
5.2.4 Discussion 83
5.2.4.1 Research question #1 83
5.2.4.2 Research question #2 86
5.2.4.3 Research question #3 89
5.2.5 Interesting findings 90
5.3 Chapter conclusion 93
CHAPTER VI, CONCLUSION 95
6.1 Introduction 95
6.2 Contributions of the study 95
6.3 Research limitations 97
6.4 Pedagogical implications 100

6.5 Future research 100

REFERENCES 102

APPENDIX A 107

APPENDIX B 108

APPENDIX C 111

APPENDIX D 117

APPENDIX E 121

APPENDIX F 123

APPENDIX G 125

APPENDIX H 129

LIST OF TABLES

TABLE 1 Measures and their administration 47

TABLE 2 Prospect: Modules and their parts 48

TABLE 3 Functions of the target lexical phrases 49

TABLE 4 Prior productive knowledge 53

TABLE 5 Receptive gains (difference between T1 and T2 scores) 54

TABLE 6 Productive gains (difference between T1 and T2 scores) 54

TABLE 7 Mean scores on lexical phrases measures 55

TABLE 8 Change in degree of knowledge of the target lexical phrases 63

Chapter I

Introduction

This study originated from the desire to answer the following question: What makes some adult second language (L2) learners achieve native-like proficiency in the L2? As a rather successful L2 learner, I wanted to delve into the particular affective, cognitive, and social variables that could be associated with successful final attainment. As a Montreal resident, I have had the chance to interact with many L2 speakers of French, English, and Spanish, all of whom present different levels of proficiency and have very interesting stories related to their L2 learning. In my case, I have always been drawn to integrate into the linguistic communities whose languages I am learning. I try to imitate the way NSs speak and try to sound as native-like as I can. I first got the idea of observing what other L2 learners do when I realized that I am not unique in making these efforts.

1.1 Formulaicity and idiomaticity

For many years the belief was that mastering an L2 necessarily entailed knowing how to manipulate and analyze its linguistic structure. However, a recurrent problem among L2 learners is that no matter how proficient they are, or how solid their knowledge of linguistic structures is, they do not always use the L2 *idiomatically*, that is, the way native speakers normally would. *Idiomaticity*, which is the property of sounding native-like, is achieved through *formulaic language*, defined in broad terms as a set of prefabricated units of words that are stored in memory and

retrieved as one lexical item (Pawley and Syder, 1983; Yorio, 1989; Wray 2002). Thus, they are neither generated nor processed by the rules of grammar A considerable number of formulaic sequences have the property of being idiomatic, thus, familiar to the majority of members of a linguistic community, who show a marked preference for them over all the grammatical possibilities to express a similar meaning.

Even though native speakers (NSs) are capable of engaging in creative uses of their L1, most of the time they do not do so. Indeed, it has been observed that most L1 production - especially oral - is not creative, but memory-based in that strings that have been stored in long term memory as one lexical item and in connection with specific linguistic contexts tend to be reused when such contexts occur again. For example, formulaic sequences that are used to nominate a topic, such as *By the way, did you hear about (....)*?, or to check comprehension, such as *Do you know what I mean*? (Nattinger and DeCarrico, 1992), tend to occur quite frequently in informal interactions, and this frequency of use makes them readily retrievable from memory as one lexical item to be reemployed in similar contexts.

Interestingly, the high delivery rates observed in L1 speech are best explained by the use of formulas, which are necessary when time pressure is a factor. In other words, by using formulaic strings, speakers are able to cope with language encoding and decoding efficiently (Conklin and Schmitt, 2007; Pawley and Syder, 1983; Wray, 2002). A corollary of the time constraint imposed on language encoding/decoding is idiomaticity: speakers tend to use what has been used before, producing familiar sequences of language which have the advantage of being easy to retrieve and easy to

process (Nattinger and DeCarrico, 1992; Pawley and Syder, 1983; Wray 2002; Yorio, 1980, 1989).

1.2 Formulaic language in the L2 classroom

Focus on idiomatic formulaic language is rather elusive in L2 instruction beyond the beginner levels even though its functions are quite useful and attractive for L2 learners:

1) it facilitates communication in early stages of L2 learning;
2) it may facilitate interlanguage (IL) development if unanalyzed chunks become analysed, allowing rule extraction to take place;
3) it marks linguistic identity, making an L2 speaker be and feel considered a member of the L2 community.

There are several possible explanations for the lack of interest in making formulaic language one of the foci of the L2 classroom. They include the problem of identifying it and defining what it is, as well as the resistance to doing away with the traditional, grammar-based teaching methods. In addition, the pervasive nature of formulaic language in language use makes it impossible to cover in the L2 classroom, where only a limited number of "real world" situations can be replicated. Furthermore, the main objective of L2 instruction is typically to develop grammatical competence, and the analysis and application of rules is favoured and considered evidence for learning. Finally, and probably most importantly, the lack of recognized pedagogical practices conducive to the acquisition of formulaic language may prevent

practitioners from concentrating on its teaching/learning (Gatbonton & Segalowitz, 2005; Schmitt, 2004; Weinert, 1995; Wray, 2000).

1.3 The issue of formulaic language acquisition

There are many questions related to the acquisition of L2 formulaic language that have not yet been answered, such as how and why it is acquired, and what psychological and/or cognitive variables favour or hinder the acquisition of formulas. Even though lexicalization, the process of storing language sequences as one lexical item, is considered a normal stage in L1 and L2 language development, recent theoretical approaches to individual differences indicate that in the case of adult L2 learning, successful lexicalization relies on the learner's ability to chunk, store and retrieve lexicalized sequences (Skehan, 2002). Therefore, those who have high levels of these abilities may find it easier to store a greater number of sequences as wholes compared to learners who have low levels.

In addition, the acquisition of formulaic sequences may also be affected by the learner's motivation for L2 learning, as suggested by the research carried out by Schmitt, Dörnyei, Adolphs, and Durrow (2004) and Dörnyei, Durrow, and Zahran (2004). Theoretically speaking, motivation is believed to be one of the best predictors of L2 acquisition. However, there has not been enough research on the relationship between motivation and formulaic language acquisition. Studies such as Schmitt et al. (2004) and Dörnyei et al. (2004) suggest that motivation does not have a linear or direct relationship with formulaic language acquisition, and it is this observation that has inspired the present study: if motivation is not directly involved with the

acquisition of formulaic language, then what lies between the two? One of the central hypothesis of this study is that learners with high levels of motivation will perform some kind personalized actions that are self-regulated with the aim of improving their L2 knowledge in general, including formulas. My main goal was to observe whether learners who perform these personalized actions, henceforth referred to as *Autonomous Language Learning Behaviours* (ALLB), do better at acquiring a number of target formulaic sequences than those who do not perform any of these behaviours. [1]

In addition, I intended to observe a connection between ALLBs and motivation, where the performance of the former would be associated with high levels of the latter. Finally, I intended to observe whether working memory capacity, which is responsible for processing and storing functions, is related to the acquisition of the target formulaic sequences. Although one of the five measures employed in this study - the autonomous language learning behaviours test (ALLB) - had never been tried before, giving the investigation an exploratory character, the value of this study lies in the links it aims to establish between the acquisition of formulaic sequences and three important theoretical constructs for L2 acquisition, namely the Self-Determination Theory (SDT) of motivation, autonomy, and working memory capacity.

---

[1] See section 2.1. What I refer to as *autonomous language learning behaviours* and *actions* in this thesis should not be equated to *learning strategies* (Wenden, 1998).

Chapter II

Definition of constructs

This study aims to observe connections between the acquisition of a number of *lexical phrases*, which is a category of formulaic language introduced by Nattinger and DeCarrico (1992), and three SLA constructs: *motivation*, *autonomous language learning behaviors*, and *language learning aptitude*. In SLA, motivation, aptitude and formulaic language have been defined and measured in numerous ways, which has often led to contradictory and even counterintuitive results. In the following section I will provide definitions of the four central constructs involved in this investigation.

2.1 Autonomy and Autonomous Language Learning Behaviours (ALLB)

Roughly speaking, autonomy is the capacity of taking control over one's learning. Benson defines it as "a multidimensional capacity that will take different forms for different individuals, and even for the same individual in different contexts or at different times" (2001, p. 47). Autonomy, like any other capacity, may or may not be exerted. More specifically, deployment of autonomy seems to depend on whether learners want to, have the ability to, and can put it into practice (Littlewood, 1996).

It is argued here that for autonomy to be researchable, it needs to be observable, that is, it needs to translate into some sort of discrete behaviours. One way of researching autonomy is by observing the personalised behaviour(s) that L2 learners carry out throughout their learning process with the purpose of improving their skills in the L2. It is hypothesised here that the number and type of behaviours,

as well as the variables that influence them, may hold the answers as to why learners learn some features before others, faster and/or better than others. It is this assumption that lead to the development of the concept of Autonomous Language Learning Behaviours (ALLB), which are conscious, individualized actions performed with a clear, self-imposed learning goal and which are in line with the person's interest and values. They are considered evidence of autonomy.

Unfortunately, most of the literature available on the topic of autonomy and autonomous language learning consists of reviews, explanations, definitions and models to be implemented in the ESL/EFL classroom, and is not concerned with the role of autonomy in L2 acquisition. Even though the area has attracted a lot of attention in the last decades, there are not many empirical studies revealing its impact on naturalistic or classroom language learning gains. Reasons for this are varied. For example, researchers have mainly concentrated on how autonomy is associated with other learner variables. That is why research on autonomy and its influence on L2 acquisition is very limited, making any statements on the topic rather hypothetical (Benson, 2001).

A term with which autonomy has been tightly associated is the so-called *learning strategies*. The problem, as Dornyei and Skehan (2003) point out, is that learning strategies have been used to account for a wide variety of phenomena, such as behaviours, emotions, and cognitive processes. without having the necessary empirical foundation to ground such theoretical mental processes and behaviours. It is this state of affairs that prevented me from getting into the domain of learning strategies although the construct of autonomy has been widely used in the learning

strategies literature. For example, Wenden (1998) discusses two relevant terms: metacognitive knowledge and metacognitve strategies. The former refers to learners' knowledge about their own learning based on their experience, whereas the latter refers to the actions learners perform in order to control their learning. Another example is Norton and Toohey's (2001) summary of the research in the area of the *Good Language Learner* (GLL). This area is tightly connected to the concept of learning strategies, involving autonomy, language learning skills, and a number of affective variables. In sum, this area is so vast, that it would have been very difficult to operationalise a reliable instrument to measure learning strategies.

2.2 Motivation and the Self-Determination Theory (SDT)

According to Deci, Vallerand, Pelletier, and Ryan (1991), the Self-Determination Theory of motivation can be illustrated in terms of a continuum that ranges from *amotivation* to *extrinsic motivation* to *intrinsic motivation*. Intrinsically motivated orientations are the ones that reflect one's genuine interest in an activity, with no external reward regulating the amount of effort or dedication to the task. For example, learners who are intrinsically motivated by L2 learning find in this activity a source of pleasure. Extrinsically motivated behaviours, on the other hand, are essentially instrumental in that the interest in performing the activity is not inherent to it nor does it necessarily emanate from the self, but rather from external pressure or control. However, and since Self-Determination is conceptualized as a continuum, this does not mean that extrinsic orientations are not self-regulated since in many cases the locus of control is within the individual (Noels, Pelletier, and Vallerand, 2000;

Pelletier and Vallerand, 1993). Finally, amotivated behaviours are devoid of self-regulation; learners who are amotivated see no connection between the behaviours performed for the activity and their consequences, which may finally cause them to quit the activity.

Deci et al. (1991) state that at the heart of motivation fluctuations lies autonomy, defined as the fact of "being self-initiating and self-regulating of one's own actions" (p. 327). When the psychological need for autonomy is fulfilled, motivational levels can become optimal for successful learning. Conversely, when autonomy is hindered, motivational levels may decrease, impeding learning. This view regards autonomy as a predecessor of Self-Determination although in this thesis, ALLBs, which are evidence of autonomy, are believed to be fuelled by self-determination. The issue of whether autonomy precedes or follows motivation has been analysed in previous research, but observations have not been conclusive (Spratt, Humphreys, and Chan, 2002), and the present study will not address this question.

2.3 Lexical Phrases

Nattinger and DeCarrico (1992) introduce the term *lexical phrases* and define them as "chunks of language of varying length […] that exist between the traditional poles of lexicon and syntax" (1992, p. 1). These chunks have two important features: first, lexical phrases are more frequent, and, as result, more idiomatic than phrases put together through syntactic manipulation. Second, they are tightly related to discourse functions, such as describing, warning, and giving advice. Having a command of lexical phrases necessarily entails having pragmalinguistic competence, that is, grammatical knowledge and pragmatic knowledge,

which is why Nattinger and DeCarrico describe this type of chunk as *form/function composites*. Pragmatic competence allows speakers to access appropriate forms that have become conventionalised and use them appropriately, that is, in the right context and with the right function. The authors claim that since lexical phrases are largely familiar and frequent in particular contexts, they ease processing costs for the hearer. In other words, lexical phrases are inextricably linked to their linguistic and social context of communication.

In Nattinger and DeCarrico's (1992) taxonomy, lexical phrases represent one of three types of sequences of language, the other two being *syntactic strings* and *collocations*. Syntactic strings are nonce forms created and processed by syntactic competence, and they represent the canonical structure of the language. Collocations are predictable combinations of lexical items which respond to the so-called "mutual expectancy" principle. Though essentially formulaic, collocations are not lexical phrases as they do not perform pragmatic functions. Lexical phrases are formulaic sequences that play distinctive pragmatic functions, such as warning, greeting, and summarizing.

In the taxonomy, lexical phrases are further subdivided into four categories according to their structural characteristics. This categorization is based on their degree of variability (paradigmatic and/or syntagmatic) and continuity (whether they are broken by lexical fillers or not), as well as their length and canonical or non-canonical status.

1. *Polywords* are short items- usually functioning as one lexical item- that do not allow for variability, are continuous, and can be canonical or non-canonical (e.g.: *by the way*, *at any rate*, *so to speak*).

2. *Institutionalized expressions* can be sentence length and function as separate utterances. They are mostly canonical and continuous, and do not allow for variation. Proverbs and aphorisms fall under this category (e.g.: *a watched pot never boils*; *be that as it may*; and *give me a break*).
3. *Phrasal constraints* are short to medium length and can be canonical or non canonical. They are mostly continuous and allow for paradigmatic and syntagmatic variation (e.g.: *a* _____ *ago*, *as far as I* _____; *the* _____*er, the* _____*er*).
4. *Sentence builders* are frameworks for whole sentences. They can be canonical or non canonical, and continuous or discontinuous. They allow for ample paradigmatic and syntagmatic variation (e.g.: *I think (that)* _____; *not only* _____*, but also* _____; *That reminds of* _____).

Since pragmatic competence is the ability to access and modify lexical phrases to suit a particular function, lexical phrases are also classified into three broad categories based on the discourse functions they perform.

1. Social interactions: these chunks mark social relations and are further subdivided into conversation maintenance functions, such as summoning, responding to summons, and nominating a topic, which are concerned with how conversations begin, develop and finish, and conversational purpose functions, like questioning, answering, and requesting, which describe the purpose of a conversation.

2. Necessary topics: these are topics a person will inevitably be asked about, but not on an everyday basis. Functions listed under this category include describing autobiography, language, time, and weather.
3. Discourse devices: these connect meaning with structure. They include logical connectors, temporal connectors, spatial connectors, and fluency devices.

Both formal and functional categories are very broad and will not be discussed in detail in this section. Suffice it to say that the reason for selecting this taxonomy for the present study is twofold: firstly, it offers a dual classification of chunks, one based on their formal constituency, and another based on their discoursal functions. Yorio (1980) offers a similar taxonomy, but in his view, single words, simple or compound, can also be considered chunks whose formulaicity arises from their degree of expectancy in a given context. My interest lies in the acquisition of multiword formulaic sequences, and Nattinger and DeCarrico's (1992) classification serves my interest well. Secondly, the fact that the sequences selected have a distinctive pragmatic role in discourse makes it easier to present them and to define them to the learners, and it may facilitate their acquisition. A classification of all the lexical phrases included in this study is provided in Chapter IV, Table 3.

2.4 Working memory capacity

Research on individual differences and, more specifically, on the role of working memory in L2 learning has received a lot of attention in the past decade as it has become evident that L2 aptitude cannot be considered as one discrete mental

construct. Aptitude is now conceived as a complex of cognitive factors that facilitate the learning of different aspects of an L2.

Skehan's (2002) description of output features highlights the importance of memory in language learning aptitude. First, he indicates that output draws upon communicative strategies, which, although efficient in facilitating communication, do not seem to lead to fundamental changes in IL. Second, output seems to rely on ready-made wholes - lexicalized chunks and "time-creating devices" - in order to cope with real-time constraints. This view leads to the conclusion that language is more memory-based than linguists used to believe. Interestingly, the role of memory in real time communication has not been observed to be equally important for all L2 learners.

Skehan (2002) introduces a model made up of nine SLA stages, and he discusses their corresponding aptitude components. The most relevant stages for a study on the acquisition of lexical phrases are *automatising rule-based language and achieving fluency*, and *lexicalizing*. At these stages, sequences of language are available as lexical items, that is, as wholes. Skehan contends that appropriate aptitude tests have not been devised to measure the underlying aptitudes for the two stages above. Such aptitudes are chunking and storing and retrieving processes. However, these abilities are subordinated to working memory capacity, which has been researched somewhat extensively in SLA and for which there are validated tests. In the present study, working memory was measured using a reading span test devised by Daneman and Carpenter (1980).

Chapter III

Review of the literature

3.1 Background

The literature I have consulted in the area of formulaic language is mainly concerned with the following issues: 1) the relation between acquisition of formulas and levels of L2 proficiency, as well as the differences between native speakers and L2 learners in formulaic language proficiency (Wiktorsson, 2001; Yorio, 1989); 2) the impact of formula type (opaque/transparent, long/short; oral/written) on the acquisition of formulas (Irujo, 1986); 3) the differences in formulaic language proficiency between ESL and EFL learners (Yorio, 1989); 4) the role of formulaic language in the acquisition of L2 linguistic generalizations (Bolander, 1989; Myles, Mitchell and Hooper, 1999; Schmidt, 1983). Broadly speaking, research on the acquisition of formulaic language has led to two main generalizations:

- adult L2 learners have a hard time developing proficiency in L2 formulaic language. That is, they either do not acquire formulas, or they comprehend them but do not use them in their own output;
- adult L2 learners do not seem to have the systematic capacity to extract linguistic generalizations from the formulaic language they do acquire in order to improve their IL (Bolander, 1989; Schmidt 1983; Wray 2002; Yorio 1989).

An aspect that has been overlooked in SLA research is the interplay between learner individual characteristics and the acquisition of formulaic sequences. In other words, how and why do learners acquire formulaic language and how and why do

they use it in their own output (Weinert, 1995)? Analyses of proficient L2 learners' output show that the use of formulaic language does not really match the high level of analytic L2 knowledge some learners have. One of the main reasons for this state of affairs is the lack of real, native-like input. NSs tend to edit their output when they interact with NNSs, providing the latter with impoverished input (Schmitt and Carter, 2004; Wray, 2002). Another no less important reason is that in formal L2 instruction, the focus has mainly been on the teaching/learning of rules in order to promote grammatical accuracy even though the advent of the "so-called" communicative approach has helped create links between a number of formulas and their context.

My view is that these explanations, though not necessarily incorrect, seem to assume that learners are passive actors, who need to be spoon-fed on formulaic sequences in order to acquire them, disregarding learners' ability to take control of their own acquisition process, performing conscious, individualized learning actions in order develop their IL. Wray (2002) suggests that L2 learners who acquire native-like formulas and use them properly tend to feel an "urge" to interact in the L2 or to be integrated into the L2 community. They may want to be considered as people who do not need to be spoken to in a different, simpler variety of language. In my view, these motivations can unchain a set of individual, autonomous (self-regulated) learning behaviours towards acquiring formulaic language (Dörnyei, Durrow, and Zahran, 2004; Schmidt, 1983; Schmitt, Dörnyei, Adolphs, and Durrow, 2004). Examples of autonomous language learning behaviours include engaging in L2 interactions in order to listen for expressions that can be used later, watching TV to notice the way NSs use the L2, asking for explicit feedback on the way to use the

target language, and imitating teachers and/or other NSs as a way of improving one's knowledge of the L2. One of the objectives of this thesis study is to investigate the connection between this kind of behaviour and formulaic language competence.

Having a strong intention to integrate into the L2 community and expressing positive attitudes towards both L2 learning and the L2 community may not be enough for L2 acquisition to occur if no action is taken with learning as the purpose. Hence, the present study is motivated by the hypothesis that learners who reach native-like competence and performance in the L2 do so by carrying out conscious actions with the purpose of improving their L2 proficiency. This hypothesis is based on the fact that no language program can show learners everything that there is to learn about a language, and yet, some learners do attain native-like proficiency.

Other variables that can explain the differences in mastery of formulaic language across learners are motivation and language learning aptitude, both of which have not been sufficiently investigated in relation to the acquisition of chunks in particular. Three studies that have addressed this issue are the ones by Schmitt et al. (2004) and Dörnyei et al. (2004), which will be discussed in the next section.

3.2 Review of pertinent literature

What follows is a summary of five studies and one review of research which have influenced my own research. The first three deal with individual characteristics and acquisition of formulaic language. The fourth, Schmidt's (1983) famous case study, describes the L2 development of a learner with seemingly very high levels of motivation and positive attitudes to the L2 community. This study allows us to catch

a glimpse of the role of individual characteristics in the acquisition of formulas. The fifth study is by Noels, Pelletier, and Vallerand (2000). Their research is essential to the experimental design of my study as it is their measure for self-determination (LLOS) that was used here. Finally, Schumann's (1986) discussion of the Acculturation Theory will be presented. This theory intends to provide a model for L2 acquisition.

3.2.1 Individual differences and the acquisition of formulaic language

Schmitt, Dörnyei, Adolphs, and Durrow (2004) carried out a classroom-based study in semi-controlled conditions. Their objective was to observe the connection between the acquisition of a number of target formulaic sequences and L2 proficiency, as well as learner variables, such as motivation and language learning aptitude.

Participants were taught a total of twenty formulas during their English for Academic Purposes (EAP) course, a two- or three -month course consisting of twenty-five hours of instruction per week. The study had a pretest-treatment-posttest design, with six measures in the pretest and five in the posttest:

1. a productive formulaic sequences test (participants had to fill in the blanks with the appropriate sequence),
2. an aptitude test (only in the pretest condition),
3. an attitude/motivation test,
4. a Vocabulary Levels Test (3000 words),
5. a Vocabulary Levels Test (5000 words), and

6. a receptive formulaic sequences test (a multiple choice test where participants were to pick the appropriate sequence among four options).

The treatment consisted of exposing the participants to the formulaic sequences at least once during the course although no specific instructions were given as to how to present the sequences. However, the main focus of the study was not the treatment, but the measures and how they changed from the pretest to the posttest conditions. More specifically, the purpose was to establish a connection between the vocabulary and the attitude/motivation measures, and the productive and receptive formulaic sequences test results.

The analyses indicated that although there were vocabulary gains and formulaic language gains, scores were already high in the pretest condition. The most considerable gains were obtained in the productive formulaic sequences test. It was possible to observe that, in general, learners had solid knowledge of most of the formulaic sequences from the very beginning, and also that there were clear instances of learning in that some participants went from not knowing some sequences to knowing them receptively or productively.

As for the individual variables, no significant correlation was observed between the gains in formulaic sequences and the measures of aptitude and attitude/motivation. The authors do not rule out their possible influence on formulaic sequence acquisition, but they suggest that these relationships may not be direct.

One could hypothesise that there are other individual features that act as mediators between motivation/attitudes and acquisition of formulas, for example effortful behaviours. Although the motivation/attitude test did include one item to

measure *intended effort - "I am planning to work very hard improving my English"*- the purpose of this question was to reveal whether the learners intended to engage in hard work to improve their L2, and not whether they were already working hard on it, or, most importantly, what kind of actions they were performing to do so. In other words, the questionnaire used for measuring the attitudes and motivations was not very revealing as to the L2 learning behaviours participants put to work to acquire these sequences or other L2 features. According to my understanding, this information is of paramount relevance as being motivated and having positive attitudes towards L2 learning have been observed to trigger individual behaviours to attain one's goals (Gardner, 1985). However, these behaviours have not been analysed in relation to the acquisition of formulaic language in particular.

3.2.2 Social adaptation and formulaic language acquisition

Dörnyei, Durrow, and Zahran (2004) carried out a qualitative study with a subsample of the participants in Schmitt et al. (2004) discussed above. Their study was designed to observe how EAP student participants acculturated to the host community in England, and how this may have influenced their acquisition of formulaic sequences. The theoretical background for their study is Schumann's (1986) acculturation theory, which states that successful L2 learning is the consequence of learners' social and psychological adaptation to the L2 group. Three important areas of this theory and their relation to the acquisition of formulaic language were investigated, namely, *culture shock*, *language attitudes and motivation*, and *social networks and enclosures*.

The authors contend that the friendship potential condition, which is part of the social networks and enclosure area, is fundamental. Therefore, one would predict formulaic language learning to be, to a large extent, the result of sustained friendly contact with members of the target language (TL) community. However, this is problematic in the case of international students, who usually lack this type of contact with locals. This led the authors to ask the following research question: "What learner characteristics and learning conditions/processes facilitate the successful mastery of formulaic sequences […]?" (p. 92).

Participants were seven students at the University of Nottingham, all of whom had been part of Schmitt et al.'s (2004) study. They all participated in a number of interviews that took place over a period of six months. Their involvement in this study was based on the observation that three of them ("unsuccessful") made practically no gains in the formulaic sequence measures, whereas the other four ("successful") made significant gains in the same measure.

The interviews, which were audiotaped and transcribed, touched upon a set of common topics, such as participants' reactions to the host country, their attitudes and beliefs about L2 learning, their motivations and motivational highs and lows, their perceived improvement, and their degree of social adaptation (friendship and contact with TL native speakers). The transcriptions were then analysed to observe any areas that could explain learners' performance on formulaic language measures.

The authors concluded that successful formulaic language acquisition is related to learners' active participation in English-speaking social circles. For example, two of the four "successful" learners managed to find their way into TL

language communities; therefore, it is possible to say that their social integration helped them to acquire the "so-called" ways to say things in the British community. The other variable that may have a bearing on formulaic language learning is language learning aptitude, as the other two "successful" learners who did not establish any social network with members of the TL community scored high on aptitude. These results suggest that formulaic language acquisition is the "function of the interplay of three main factors: language aptitude, motivation, and sociocultural adaptation. […] [I]f the latter is absent, only a combination of particularly high levels of the two former learner traits can compensate for this, whereas successful sociocultural adaptation can override below-average initial learner characteristics" (p. 105).

3.2.3 Individual differences and L2 memorization

Fitzpatrick and Wray (2006) set out to investigate performance on memorized native-like sequences by L2 learners of English. The participants were six Asian female, intermediate and advanced ESL learners, living, studying, and working in England. All of them completed four tests that allowed the researchers to create a profile of the learners based on their L2 proficiency, language learning aptitude and motivation.

The procedures consisted of a cycle of six audio-recorded stages: At stage 1 each subject had a one-on-one meeting with one of the researchers to anticipate the contents of real interactions in which the participants were to be involved in the near future. The participants had to produce the utterances they thought would best convey

the messages anticipated for the interaction. Then the researcher, a NS of English, provided a colloquial and appropriate native-like paraphrase of the participants' utterances. The native-like utterances or model utterances (MU) were recorded on a CD and given to the learners.

At stage two the participants had to practice producing the memorized MUs on their own. At stage three a 'practice performance' took place: the researcher met with the participants individually to rehearse the upcoming interaction. Participants were asked to use as many memorized MUs as possible. Stage four was the real interaction identified and prepared for in the previous stages. Stage five was a one-on-one meeting with the researcher one or two days after the real interaction in order to evaluate their performance. At stage six, which took place a couple of months later, participants were asked to recall as many MUs as possible. At the end of the cycle, participants were asked to complete a post study questionnaire to examine the overall benefits of the learning experience.

The analyses yielded a significant correlation between the proportion of attempted MUs at the real performance stage and the aural memory test results of the language aptitude test. This could be an indicator that the acquisition of formulaic language is related to the capacity to memorize and retrieve the chunks.

An interesting finding is that the subject who obtained very poor proficiency, vocabulary, and aptitude scores attempted all the utterances in the first conversation, ten out of eleven in the second, and fifteen out of seventeen in the third. Incidentally, this was the only subject who displayed integrative motivation, saying that the

purpose for improving her English was to "get to know British people better" (2006, p. 53).

This study is pertinent to my project in that it suggests that a combination of affective factors and abilities may be at the core of the acquisition/production of formulaic language. Most importantly, it suggests that the ability and desire to acquire and use chunks does not depend so much on time and quality of exposure -which in this study were ideal- but also on what the learner's goals are in relation to L2 learning. The learner discussed above, who obtained low scores in all the language related measures but displayed integrative motivation, was the most successful in attempting the MU in all the conversations. Although the number of participants in Fitzpatrick and Wray (2006) is quite small and the nature of the study quite exploratory, this finding is in accord with Dörnyei et al.'s (2004) conclusion: language aptitude, motivation and desire to participate in the L2 community are essential to successful formulaic language acquisition. Where the former is missing, high levels of the two remaining traits are called for.

3.2.4 The case of Wes and formulaic language acquisition and use

For three years, Schmidt (1983) monitored the IL development of an adult NS of Japanese, Wes, living in Hawaii. The purpose of his study was to validate Schumann's *acculturation model*, which involves affective and social variables. In broad terms, this model states that poor L2 acquisition could be related to individual perceptions as to the social and psychological distance between the L1 and L2. Wes was described as having low social and psychological distance from the L1-speaking

community in that he respected and felt respected by the American community, and he had more social contacts with Americans than with Japanese even though the Japanese community in Hawaii is quite large. He had low language aptitude, inductive ability, grammatical sensitivity, and little formal education, all of which are considered to be factors that hinder L2 acquisition, but because of his extroverted personality and attitude towards the L2 community, the acculturation model would predict successful L2 acquisition in his case.

Schmidt observed that although Wes's ability to communicate in English had indeed improved, his grammatical accuracy had remained low throughout the three years Schmidt followed his L2 development. It is important to bear in mind that Wes could barely read or write in English, so his sources of L2 input were mainly oral. He was observed to listen for formulas on TV, music and conversations, making explicit comments on how some of his English-speaking friends used certain phrases and even practicing them aloud. He was even able to predict what a NS would say in particular contexts. Although he could imitate and use a number of formulas in correct contexts, he did not seem to be able to extract rules from the memorized language units. It appeared to Schmidt that some of these formulas must have been learned as wholes since they were clearly beyond Wes's grammatical ability. A number of these formulas had not undergone any analysis and seemed to be retrieved as wholes, whereas others seemed to have been analysed into their constituent parts, probably causing them to be erroneous at times.

Discourse competence, that is, knowing how grammatical forms and meanings combine to create unified discourse, is the area where Wes improved the

most over the period of observation. To Schmidt it seemed that Wes had great confidence in his ability to communicate his needs, even if he was well aware that his English was far from perfect. He seemed to be concerned with what was good enough in a particular context, maybe because he realized the communicative power of some prefabricated sequences and thought them important to attain his own goals. Even though Wes acquired a lot of formulas, which helped him gain fluency and improve his discourse competence, Schmidt concluded that Schumann's acculturation model did not apply in his case.

Unfortunately, given that Schmidt did not delve into the connection between Wes's formulaic language knowledge/use and some important components of his personality, we do not know about his levels of chunking ability or storing capacity. Neither do we know the exact actions he performed in order to improve his IL. This gap is of great significance for the present study, which presupposes a correlation between these very personal features and the learning of formulaic language.

3.2.5 Self-Determination Theory and L2 learning

Based on Deci and Ryan's (1985) Self-Determination Theory (SDT) of amotivation/extrinsic motivation/intrinsic motivation and on the work of other supporters of this model, Noels, Pelletier, and Vallerand (2000) devised a more specific measure for L2 learning motivation to observe its relation to several orientations and psychological mechanisms. Their study had two main purposes.

1. The first purpose was to present a new instrument to measure motivation in the frame of SDT, comprised of seven motivational subscales grouped in three

main categories: amotivation, which arises from the incapacity to see the connection between performing an activity and its outcomes; extrinsic motivation, where the regulation to perform an activity is not inherent to it, but is controlled by an instrumental end; and intrinsic motivation, where the regulation comes from the pleasure one feels when performing an inherently enjoyable activity. They identified seven scales, with extrinsic and instrinsic motivation further divided into three subscales.

1. **Amotivation**

Extrinsic motivation

2. **external regulation**: motivation that is regulated by sources that are external to the individual. When these sources are removed, motivation to perform the activity disappears.
3. **introjected regulation**: motivation that is regulated by an internalized pressure to perform the activity. The pressure comes from the individuals themselves, and performing the activity does not really correspond to their personal choice.
4. **identified regulation**: motivation related to personal goals set by the individual, and which can only be attained through performance of the activity at hand.

Intrinsic motivation

5. **intrinsic motivation - Knowledge**: motivation to perform an activity for the pleasure of discovering new things.
6. **intrinsic motivation - Accomplishment**: motivation to master an activity or achieve a goal.
7. **intrinsic motivation - Stimulation**: related to the pleasure experienced while performing the activity.

2. The second purpose was to relate the motivational constructs in the Self-Determination Model to four orientations for L2 learning included in previous research: 1) travel, 2) friendship, 3) knowledge, 4) instrumental orientations.

The instrument Noels et al. (2000) used was a questionnaire composed of three sections: an orientation section; an intrinsic motivation, extrinsic motivation, amotivation section; and an *antecedents and consequences of self-determination* section. Each section consisted of subscales with numerous items. Participants had to rate each statement using the following scale:

1 = Does not correspond 2 = Corresponds very little
3 = Corresponds a little 4 = Corresponds moderately
5 = Corresponds a lot 6 = Corresponds almost exactly
7 = Corresponds exactly

Noels et al. found that the statements chosen to represent the seven motivational constructs were adequate and "support the distinctiveness of each of the subscales"

(p.68). As for the relationship between the self-determination model of motivation and the four orientations presented above, the authors conclude that even though travel, knowledge, and friendship do not relate to intrinsic motivation in that they are external to the activity of L2 learning, they "connote relatively self-determined reasons for engaging in the L2 learning task" (p.74).

There was one observation considered contrary to expectation: the identified regulation subscale showed a stronger positive correlation with the antecedents and consequences of self-determination than the intrinsic motivation subscales. According to the authors, two non- exclusive interpretations can be gleaned from this finding: first, intrinsic motivation may not be on the same continuum as extrinsic motivation; second, successful language learning may not be solely dependent on whether the activity is inherently interesting and fun for the learners, but on how important it is for their personal development.

Noels et al.'s study confirms the usefulness of the scales proposed for measuring the different types of motivation within the SDT, and it also supports the validity of this model in relation to other orientations outside its domain. It is possible to connect the self-determination model to psychological mechanisms, such as perceived competence and autonomy, anxiety and desire to continue doing the activity.

3.2.6 Schumann's acculturation model for SLA

Acculturation is a macro construct which embraces a number of social and psychological variables. According to Schumann, these variables clustered together can predict L2 acquisition in that learners are believed to acquire the L2 in relation to

their ability to acculturate to the L2 community. Acculturation is defined as the social and psychological integration into the L2 community, and it is conceptualized as a continuum that illustrates social and psychological distance from or proximity to the L2 community.

Schumann's acculturation theory is relevant to the present study in the sense that contact with Anglophones is believed to predict the acquisition of formulaic language. One of the characteristics of formulaic language is that it has the property of being culture-bound and identity laden (Wray 2002). Historically, given the development of the theories of language and of language teaching/learning, formulaic language teaching and learning have not been an explicit priority in the L2 classroom, which is why it is believed that in order to acquire idiomatic formulas, L2 learners need to be in natural, everyday contact with TL speakers (Dörnyei et al. 2004). Contact with the TL group is one of the essential social variables of the acculturation theory included under the construct of enclosure, which "refers to the degree to which the [L2] group and the TL group share the same churches, schools, clubs, recreational facilities, crafts, professions and trades. If the two groups share these social constructs, then enclosure is said to be low, contact between the two groups is enhanced, and acquisition of the TL language by the [L2] group is facilitated" (Schumann, 1986; p. 381).

Although this theory was built in order to analyse L2 acquisition by immigrants, there are a number of variables that are of interest to SLA in general. In this thesis study, participants are not immigrants, but the notion of contact with members of the L2 community is of special interest as it can be considered a conscious action carried

out by the learners with the purpose of improving the L2. In other words, and based on its particular purposes, contact can be an autonomous language learning behaviour, and in turn, evidence for learner autonomy.

3.3 Conclusion

The discussion of the literature above leads me to draw the following conclusions:

1) L2 learners perform different personalized actions in order to obtain a particular goal in L2 learning. Wes, Schmidt's subject, enjoyed interacting with TL speakers and even imitated some of them, seemingly in order to increase his own repertoire of key formulaic sequences. In Dörnyei, Durrow, and Zahran (2004), it was possible to observe that two successful formulaic language learners sought to establish contact with members of the TL group. Fitzpatrick and Wray's (2006) analyses show that some participants intentionally created instances in which they could use newly learned sequences in real communication.

2) Desire to participate in, or integrate into, the L2 community seems to be an important precondition for formulaic language acquisition. However, it is not clear whether the two successful participants in Dörnyei et al. (2004) who established friendly contact with native speakers of the L2 did so in order to improve their IL or because they really wanted to adapt to the L2 community.

Although Schmitt et al. (2004) found that motivation and attitudes towards L2 learning are not directly linked to formulaic sequence learning, their study suggests that there may be other factors that mediate between motivation and formulaic

language gains. My hypothesis in relation to this issue is that one of these factors could be what I introduce in this thesis project as *autonomous language learning behaviours (ALLB)*. These are learner-initiated actions performed in order to improve one's L2 knowledge/performance. For example, imitating the way a native speaker uses the TL, as Wes did, going to places where native speakers of the TL usually go, like the participants in Dörnyei *et al*. (2004), or forcing the context in order to use a chunk in an L2 conversation, like the subject in Fitzpatrick and Wray (2006), can all be considered autonomous language learning behaviours (ALLB). As mentioned before, one would expect these behaviours to be performed only if the learner is highly motivated. High levels of motivation are the most internalized type of extrinsic motivation, identified regulation and all three types of intrinsic motivation, knowledge, accomplishment, and stimulation. I hypothesise, then, that L2 learners who show high levels of self-determination are more likely to perform ALLBs with the purpose of improving their L2 skills.

It is argued here that one of the main problems with the study of motivation in L2 acquisition is that researchers tend to analyse it as having a direct bearing on language gains. This disregards the behaviours that motivation may influence, which I hyposthesise to have a direct relation with language learning. Vallerand and Thill (1993) state that in psychology, all definitions of motivation deal with the study of behaviours, and L2 learning as an activity can potentially motivate learners to perform certain behaviours in order to succeed at it.

Researching the acquisition of formulaic language is an elusive task as it is hard to ascertain what exactly influences it. Is it related to the ability to memorize

strings as wholes, or is it related to other individual features, such as motivation, willingness to take risks, or wanting to integrate into the L2 community? Also, it has not been possible to ascertain the impact that the context and type of interaction has on the acquisition of L2 chunks. So far, these questions have not been broadly addressed, leaving us with lots of hypothetical statements and very little evidence or proof. The present study intends to be a step towards revealing the relationships between variables, such as motivation, autonomy, and L2 learning aptitudes, and the acquisition of formulaic language.

3.4 Research questions

Research on the role of motivation and aptitude in acquisition of lexical phrases has been scarce and not very conclusive. Even though theory suggests possible links between them (Skehan, 2002), studies such as Dörnyei et al. (2004), Schmitt et al. (2004), and Fitzpatrick and Wray (2006), have not been able to obtain clear evidence on the matter. This state of affairs has led me to hypothesise the existence of other variables involved, especially between motivation and the acquisition of lexical phrases. In fact, in this study I intend to observe 1) whether the acquisition of lexical phrases is mediated by autonomous, self-initiated behaviours, and 2) the relationship between levels of motivation and L2 learning aptitude with the acquisition of formulaic language. More specifically, the present study is intended to seek answers to the following research questions:

1. Are **autonomous language learning behaviours** positively related to the most **self-determined or intrinsic types of motivation**?

The hypothesis underlying this question is that ALLBs are associated with high levels of self-determination in that the higher the level of motivation is, the higher the performance of autonomous language learning behaviours will be. On the basis of Noels et al.'s (2000) unexpected finding that identified regulation, the most internalised type of extrinsic motivation, correlated the highest with other learner variables, such as self-perception of competence and of autonomy, I predicted there would be a higher correlation between autonomous language learning behaviours and identified regulation than between these behaviours and any of the three types of intrinsic motivation. If such is the case, then we could suggest that the optimal type of motivation for performing behaviours aimed at L2 learning in general is extrinsic. Learners that are extrinsically motivated at the identified regulation point may not consider learning English a pleasurable activity per se, but may find that English is essential for their personal development and because of this, they are willing to perform personalised behaviours with the purpose of improving their L2 skills.

2. Are gains in knowledge of **lexical phrases** as shown by the receptive and productive test results positively related to **autonomous language learning behaviours**?

The hypothesis underlying this question is that gains in knowledge of the targets are associated with the performance of ALLBs. As discussed above, there are different types of autonomous language learning behaviours. Some of them are

socially oriented, such as trying to initiate English conversations with Anglophones, whereas others take place within the learner, such as orienting one's attention towards some bits of input. One could argue that not all the behaviours would have the same impact on the acquisition of lexical phrases, but overall, it seems sensible to hypothesize that the high scores on the measures of these behaviours will correlate with higher scores on knowledge of lexical phrases.

3. Are gains in knowledge of **lexical phrases** positively related to the most **self-determined types of motivation**?

One could hypothesise that if self-determined types of motivation correlate positively with autonomous language learning behaviours, and that if the latter correlate positively with the acquisition of lexical phrases, then knowledge of these phrases should correlate positively with the most self-determined types of motivation. However, since acquisition (gains) and knowledge are not the identical, we may be able to observe cases where learners obtain low scores in the self-determination measure and still know the lexical phrases in the test. It is important to highlight that, to my knowledge, there is no empirical research that analyses the relationship between the self-determination model of motivation and L2 acquisition.

4. Are gains in knowledge of **lexical phrases** positively related to **working memory capacity**?

As Dörnyei et al. (2004) conclude, high levels of L2 learning aptitude seem to be related to the acquisition of lexical phrases. Thus, I hypothesize that working

memory capacity, which performs processing and storing functions, will correlate with gains in lexical phrases.

If the analyses confirmed these hypotheses, there would be evidence to suggest a complex model where the acquisition of L2 formulaic language would be dependent on at least three variables, namely motivation, autonomy, and L2 learning aptitude. It could even be hypothesized that these variables are interrelated where L2 learning aptitude is linked to self-determination, and self-determination leads to performance of autonomous language learning behaviours. However, this last hypothesis is not addressed here.

Chapter IV

Research methodology

This study was designed to observe the influence that three learner factors, namely motivation, autonomy, and language learning aptitude, may have on the acquisition of a set of lexical phrases.

4.1 Differences between this study and Schmitt et al.'s (2004)

Although the study is based on the research carried out by Schmitt et al. (2004), there are a number of differences due to important contextual aspects that were impossible for me to modify. However, some of the differences are intentional in order to meet the purposes described above. For example,

1. Schmitt et al. (2004) intended to observe a connection between motivation and attitude measures and acquisition of a specific number of formulaic sequences. They used a measure of motivation that was specially designed for their study, based on the theory and research developed by Dörnyei. In the current study, motivation was approached from the perspective of Self-Determination Theroy, which has attracted the interest of a number of researchers within SLA. In fact, the measure that I used is the Language Learning Orientation Scale developed by Noels and colleagues (2000).
2. Schmitt et al. (2004) used a language aptitude test that measures participants' ability to extract linguistic rules, identifying linguistic patterns such as the order of elements in the sentence, and then match word order to meanings.

They asked participants to look at a set of words, phrases and sentences in an imaginary language, and then choose the English equivalents from a list of possibilities. The aptitude measure in my study was Daneman and Carpenter's (1980) reading span test, which aims at measuring working memory capacity. Working memory has two main functions: processing and storing information. These two functions are hypothesized to be essential in the acquisition of formulaic language.

3. Finally, even though this study also has receptive and productive measures whose layout is identical to that in Schmitt et al.'s study, the chunks picked for this study are different. This is because the textbooks for the course, as well as the course level, are different from those in Schmitt et al.

Apart form the differences at the level of the measures employed, there are three important contextual differences:

1. The first and most important is the exposure to L2 input. While in Schmitt et al. (2004), participants had 25 hours a week of class instruction over three months, participants in my study only had three hours a week of class instruction in a span of thirteen weeks.
2. The second contextual difference is the school setting. In Schmitt et al.'s (2004) study, participants were enrolled in an English university ESP course in England because they intended to pursue university studies in English later. In my study, participants were enrolled in a public, French speaking college and took the English course (FNA) because it was

compulsory. Most participants did not envisage the possibility of studying in English later on.

3. Age and origin are also different in both studies. In Schmitt *et* al.'s study, participants are between 22 and 26 years of age and mainly of Asian origin (Japanese and Chinese). In the present study, participants' average age was 20 years, and they were mainly Francophones from Quebec. Origins were varied and some of the participants have a mother tongue other than French, but overall, their academic development had been in French exclusively.

4.2 Context of the study

The study took place in a Montreal college (CEGEP) in the fall session of 2010. I have worked in that college as an ESL teacher for a number of sessions and decided to carry out the research with my own students enrolled in the course *langue anglaise et communication* (604-FNA-RO), which is the most basic course offered within the framework of the *formation générale propre*. Students in this course had previously passed the lowest entry level, *anglais de base* (604-100-MQ). The course FNA is the second and last obligatory ESL course at college and was deemed the most appropriate course to meet the purposes of the present study: to observe possible connections between learner variables such as levels of motivation, autonomy, language learning ability and the acquisition of a number of lexical phrases.

4.3 Participants

Paticipants were 32 students enrolled in the course *langue anglaise et communication* (604-FNA-RO), and they came from three different intact FNA groups all taught by the researcher. Their ages ranged from 18 to 30 years, the average age being 20 years. Even though they were in different college programs, technical and pre-university, they had all taken the same ESL prerequisite course at the college: *anglais de base, 604-100-MQ*.

Participant selection in this study was based on the answers to a personal information sheet containing 13 background information questions (See Appendix A). Participants completed this questionnaire on the first day of class, yielding the following information:

4.3.1 Mother tongue

Most participants (27) had French as their L1, and only five of them indicated they had another or other L1s. Two participants claimed to have French and Haitian Creole as L1s, whereas another had French and Guanbaye (language spoken in Chad) as L1s. One participant identified Spanish as the L1, whereas for another it was Arabic.

4.3.2 Language(s) spoken at home

The most common language spoken at home was French. Twenty-six participants identified it as the only language used with their family. Five participants identified French and another language as the ones used at home. Only one participant indicated that the only language used at home was her parents' L1, Spanish.

4.3.3 L2(s) spoken

Even though the course participants were enrolled in is the continuation of the most basic English course, most participants indicated that English was their L2, whereas some participants thought that their skills in English were too basic to even consider it as their L2. Twelve participants indicated that they had no L2. Two indicated that French was their L2 and, two claimed to have two L2s: one Spanish and English and the other one French and English.

4.3.4 Parents' L1

Participants' parents were mostly native speakers (NSs) of French (23). Three participants stated their parents were NSs of Haitian Creole. Two participants indicated that their parents were NSs of Arabic, and one participant's parents were NSs of Guanbaye (spoken in Chad). Three participants indicated that their parents had different L1s: English and French, Haitian Creole and French, and Spanish and Quechua (one of the indigenous languages of Peru).

4.3.5 Education

With the exception of one participant who had done his primary education in Chad, all participants attended primary school in Quebec. All participants completed their secondary education in Quebec. In terms of CEGEP education, 23 participants had done their first ESL course the session before the one in which this study was conducted. Four participants had done it two sessions before, and five more than a year before.

4.3.6 ESL instruction

Twenty-nine participants indicated that they had started taking English courses in primary school, and three during secondary school.

4.4 Instruments

In order to answer the four research questions presented at the end of the previous chapter, six instruments were used. With the exception of the working memory test and the interviews, all measures were administered in the pre-test and the post-test conditions.

4.4.1 Productive measure of lexical phrases

Participants were given two short texts on different topics (see Appendix B). Each text contained blanks, which participants filled in using cues, such as the length, the number of blanks, and the French equivalent to work out what the missing chunk was. In addition, the first letter(s) of some of the missing words, as well as the French translation was provided.

This is an example of one of the texts:

> *H1N1 is a serious thing. We are at the doors of a pandemic that can cause* ***at le_____ (au moins)*** *one third of the population to be sick. The best way to prevent the virus from spreading, apart from a vaccination, is providing clear and sufficient information. So,* ***in_____ of (au lieu de)*** *talking about the virus and the shot on TV and the radio mainly, the government should* ***ma_____ su_____ th_____ (s'assurer que)*** *every single home in the country receives a brochure containing information* ***su_____ a____ (tel que/comme)*** *prevention measures, vaccination campaigns, contact numbers and Internet addresses for more information.*

The French translations for the chunks were included 1) to ease comprehension of the whole text by providing the missing meanings, and 2) to prime participants' responses by establishing a direct meaning-lexical phrase relation. The cues did not help participants guess the answers as it is unlikely that participants could have come up with correct responses through literal translation. However, the cues may have helped them retrieve the responses in the case where they already knew them. This measure was used to answer the second research question: Are gains in knowledge of **lexical phrases** as shown by the receptive and productive test results positively related to **autonomous language learning behaviours**?; the third research question: Are gains in knowledge of **lexical phrases** positively related to the most **self-determined types of motivation**?; and the fourth research question: Are gains in **lexical phrase** knowledge positively related to **working memory capacity**?

4.4.2 Self-Determination questionnaire

Participants were asked to answer a questionnaire that contained the Language Learning Orientations Scale (LLOS) - used by Noels *et al*. (2000) - (see Appendix C). Through e-mail communication with Professor Noels, it was suggested that I intersperse items coming from other motivation scales and use them as distracters. Accordingly, I used six items from Gardners's scales (1985) and ten statements related to the antecedents and consequences of self-determination obtained from Professor Pelletier (personal communication). The purpose of this questionnaire was to observe whether all the learner variables involved in this study - motivation, L2 learning aptitude and performance of autonomous language learning behaviours - are connected to one another, possibly suggesting a model of formulaic language

acquisition. This measure was included to answer the first research question (Are **autonomous language learning behaviours** positively related to the most **self-determined or intrinsic types of motivation**?) and the third (Are gains in knowledge of **lexical phrases** positively related to the most **self-determined types of motivation**?).

4.4.3 Autonomous language learning behaviours questionnaire

To determine participants' level of autonomy, a test of autonomous language learning behaviours (ALLB) was administered. This test was devised by the researcher and was piloted and revised twice. The original version contained 22 items, but upon obtaining the first Cronbach alpha coefficients, it was evident that some items did not fit in the categories of behaviours established. Thus, some elements were revised, modified and merged, whereas others were added (see Appendix D).

The 24 items the questionnaire fit into five categories of behaviours,

1. Seeking opportunities to socialise in English: **SOSE**

   E.g.: *I get involved in situations where I have to speak English (press the option for English on the phone, go to English speaking areas, stores, restaurants, attend English social events, etc).*

2. Aligning attention to selected bits of input: **AASBI**

   E.g.: *I listen to conversations among Anglophones with the intention of learning new words and expressions.*

3. Practice selected bits of input: **PSBI**

   E.g.: *I imitate/repeat in my head or out loud some words or expressions that native speakers say.*

4. Seeking L2 evaluation (internal, external): **SL2E**

   E.g.: *I evaluate my knowledge of English with the intention of finding the areas that need improvement.*

5. Seeking opportunities to practice: **SOP**

   E.g.: *I often visit Internet sites in English (chats, blogs, browsers, etc).*

   Participants indicated their degree of agreement with each statement by selecting one out of six choices:

1) Strongly disagree
2) Disagree
3) Slightly disagree
4) Partly agree
5) Agree
6) Strongly agree

Evidently, this questionnaire is not an exhaustive inventory of behaviours. Given the personalized nature of autonomous language learning behaviours, it would be virtually impossible to list all the behaviours learners may engage in. The purpose of the questionnaire, rather, was to provide a quantitative dimension to this study that was complemented by qualitative data gathered during interviews with the participants. This measure is intended to answer the first research question (Are **autonomous language learning behaviours** positively related to the most **self-determined or intrinsic types of motivation**?) and the second research question (Are gains in knowledge of **lexical phrases** as shown by the receptive and productive test results positively related to **autonomous language learning behaviours**?).

4.4.4 Receptive measure of lexical phrases

The receptive measure contains the same texts and the same blanks as the productive one (see Appendix E). The only difference is that the receptive measure is a multiple-choice test. Participants had to choose the appropriate sequence among five options, one of which is the option "I don't know."

H1N1 is a serious thing. We are at the doors of a pandemic that can cause **3)** _____ one third of the population to be sick. The best way to prevent the virus from spreading, apart from a vaccination, is providing clear and sufficient information. So,

4) _____ talking about the virus and the shot on TV and radio mainly, the government should **5)** _____ every single home in the country receives a brochure containing information **6)** _____ prevention measures, vaccination campaigns, contact numbers and Internet addresses for more information

3) a. In the minimum case
b. At least
c. At the lowest number
d. In minimum terms
e. I DON'T KNOW

4) a. Instead of
b. In the place of
c. As alternative to
d. As replacement to
e. I DON'T KNOW

5) a. Give assurance that
b. Make sure that
c. Provide certainty that
d. Assure that
e. I DON'T KNOW

6) a. Equal to
b. Identical to
c. Such as
d. Same as
e. I DON'T KNOW

Participants were encouraged not to guess the correct answer, and to use option e, "I DON'T KNOW," whenever they were not sure about the correct option. Only one answer is correct. The other three options are grammatically correct and express the same meaning as the target, but are unlikely sequences, thus non-formulaic and unidiomatic. This receptive measure, as well as the productive test described above, is related to the second, third, and fourth research questions.

4.4.5 Working memory measure

A reading span test devised by Danemann and Carpenter (1980) was administered by the researcher towards the middle of the term. This test was used to measure working memory, which is the active part of short-term memory and is considered essential for processing and storing, as well as for retrieving, information (Danemann & Carpenter, 1980). Participants were presented with three sets of two, three, four, five, and six sentences. All the original sentences were translated into French (see Appendix G), and participants read them aloud at their own pace (e.g.: ***Ghandi, le grand défenseur de la résistance pacifique, a emmené son pays, l'Inde, à l'indépendance.***). As soon as they

finished reading the first sentence, participants went on to read another one until they received a blank card indicating the end of the series, at which point they had to recall the last word of each sentence in the order in which they occurred. Participants were told that the number of sentences per set would increase. The test was stopped when participants failed to correctly recall the words in the three sets of a particular level. There were sixty sentences in total - 13 to 16 words long. The sentences, unrelated to one another, ended in a different word and were typed in one single line in the middle of an 8 x 5 index card, as in the original study. This measure is related to the fourth research question (Are gains in knowledge of **lexical phrases** positively related to **working memory capacity**?).

4.4.6 Interview

During weeks 9 and 10 of the term, all 32 participants had an interview with a research assistant to discuss their autonomous language learning behaviours and their motivation to learn English as an L2. The individual interviews (see Appendix F) were an important source of participant-specific information that the quantitative data did not reveal. More specifically, these interviews were intended to obtain information about participants' motivation and feelings towards learning ESL in general and towards vocabulary learning in particular. It was also a way to find out about the specific actions they perform in order to improve their knowledge of English in general and of vocabulary and chunks –presented to them as *new words* and *expressions*. The interviews lasted about 15 minutes and were conducted and recorded by a research assistant. There were 21 questions, which can be classified into the following eight categories:

- Feelings towards English and Anglophones

- English learning experience in primary school, high school, college
- Motivation to learn English
- Level of enjoyment in speaking in, reading in, writing in, and listening to English.
- Self-initiated actions to learn English in general and new English words and expressions.
- Strategies identified as aiding L2 learning in general and L2 vocabulary and expressions.
- Self perceptions of competence
- Desire to continue learning English.

4.5 Measure administration

Since this study followed a pretest-treatment-posttest design, some measures were administered twice. Table 1 below shows the measures and their order of administration for both the pretest and posttest conditions.

Table 1

Measures and their administration

Test	Pretest Week 1	Weeks 9-10-11	Posttest Week 13
1. Productive measure of lexical sequences	Yes	No	Yes
2. Motivation measure (LLOS – IEA)	Yes	No	Yes
3. Autonomy measure (ALLB)	Yes	No	Yes
4. Receptive measure of lexical sequences	Yes	No	Yes
5. Working memory measure	No	Yes	No
6. Interviews	No	Yes	No

4.6 Selection of the target lexical phrases

All the lexical phrases were taken from the FNA coursebook, *Prospects: English Skills for Academic and Professional Purposes* (Paré and Petring, 2005). This book has three broad modules, each of which is further subdivided into three parts. Therefore, the vocabulary presented tends to be repeated and applicable in different contexts within the same module. The modules and their parts are illustrated in Table 2 below.

Table 2

Prospect: modules and their parts

Module 1: Making a difference	**Module 2: The challenge ahead**	**Module 3: The world of work**
Part 1: The creative mind	Part 1: The global picture	Part 1: Exploring possibilities
Part 2: Innovations and innovators	Part 2: The cost of development	Part2: Preparing your job search
Part 3: Humanitarians	Part 3: New roads	Part 3: Realities of the working world

In order to identify the formulaic sequences to be measured, I went through the following steps:

- I read all the readings and the audio scripts for the listening activities in all three modules.
- I listed all the sequences that in Nattinger and DeCarrico's (1992) description could be considered to be *lexical phrases*.
- I picked the sequences that occurred more than once per module, regardless of where they occurred (sometimes they occurred more than once in the same text).
- I then made sure that the sequences occurred mainly in the first two modules, which are the most important for the midterm and final evaluations.

These procedures yielded the ten sequences targeted in this study, as shown in Table 3.

Table 3

Functions of the target lexical phrases

Function: Discourse device	**Function: Social interaction**
Fluency device: 1. Sort of (polyword)	**Conversational purpose: asserting** 1. Be good enough to … (sentence builder) 2. Be likely to …(sentence builder) 3. used to … (sentence builder) 4. Make sure that …(sentence builder)
Logical connectors: 2. As a result (polyword) 3. Such as (polyword) 4. Instead of (polyword)	
Evaluator: 5. At least (polyword) 6. I find it hard to … (sentence builder)	

4.7 Treatment

This study does not aim to investigate a particular treatment; rather, it is intended to observe learner variables and their impact on the acquisition of a number of lexical phrases. However, even though there was no treatment or control group, there was a pedagogical intervention to the extent that participants' attention was explicitly drawn to the lexical phrases selected. All participants in the three FNA groups were presented with the same lexical phrases and in the same manner. The target phrases were explicitly presented to the learners either in PowerPoint presentations or in vocabulary handouts. The presentation of the targets was done in the following way:

Class 2: Presentation of the phrases **as a result** and **used to** in PowerPoint format along with other lexical items from the reading ***Geniuses can thank upbringing, not genes***, assigned as homework. Although students had not done their homework and some of them had not yet bought the manual, they seemed to know these phrases.

Class 3: Presentation of the phrases **find hard to** and **make sure that** found in the listening ***Rivets and hooks***. I wrote the chunks on the board and tried to use them as they were used in the listening. I asked students whether they knew what they meant and then used them in order to get listening comprehension information, such as

- What did De Mestral **find hard to** do?
- Why do these groups try to **make sure that** jeans are not made in third world countries?

Class 4: Students listened to ***Inventor Beware***, but I did not draw students' attention to any of the three target chunks present in the listening: **such as** and **sort of**.

Class 5: I prepared a sheet containing an input recognition activity called "who says this?" The purpose of this activity was to have students read a set of sentences and then indicate who in the audio material says them. I selected three sentences that contained the chunks **such as** and **sort of**, along with other sentences containing non target expressions. The three target chunks and the non targets were presented in bold type so as to draw learners' attention to them. They were all given the same importance. In some cases, students were asked to translate them into French. Since they are idiomatic, the right translations were not literal, but equivalent to the L2 ones in terms of the meaning of the context at hand.

Class 9: The phrases **instead o**f, **be likely to + verb**, **good enough to**, and **at least** were presented. They were present in the listenings *Car Crazy* and *Killing the monster* . Students were once again presented with a "who says this?" sheet.

As the teacher/researcher, I could not count the number of times each target came up in the three classes that were involved in the study. What is clear is that participants' attention was explicitly drawn to the targets only once during the course/treatment even though some targets occurred more than once in the course manual. However, it is not possible to ascertain whether participants were exposed to the targets outside of the classroom.

Chapter V

Data Analyses Results and Discussion

5.1 Quantitative data analyses

This chapter includes the results and discussion of both the quantitative and the qualitative analyses. It is divided into three parts: 5.1 Quantitative data analyses, 5.2 Qualitative data analyses, and 5.3 Chapter conclusion.

5.1.1 Introduction

The present study investigates gains in knowledge of ten target lexical phrases, and the extent to which these gains are related to learner variables, namely levels of self-determination, performance of autonomous language learning behaviours, and working memory capacity. The analyses reported in this section are based on the data gathered through the measures in the pre- and posttest conditions, namely,

1) The productive knowledge test involving the target lexical phrases,
2) The receptive knowledge test involving the target lexical phrases,
3) The LLOS questionnaire to measure motivation for learning English,
4) The ALLB to measure performance of learner autonomy.

In addition to these measures, participants were asked to take a reading span test with the teacher/researcher in order to establish their working memory capacity. This test was administered only once, during weeks 9 and 10 of the course.

5.1.2 Prior knowledge of the target lexical phrases

One of the first things to determine was the number of lexical phrases participants knew before the treatment. In this study, reliable knowledge of an item prior to the treatment is measured by the participants' ability to use it correctly on the productive measure. This is based on the assumption that even though participants were provided with the French equivalent in the productive condition, they could only have produced the target lexical phrase if they already knew it. The receptive test is not deemed to be a reliable measure of prior knowledge, given that participants could select the correct target by chance, rather than the option "I DON'T KNOW" when they were not sure of, or did not know, the answer.

Table 4

Prior Productive Knowledge

Number of lexical phrases known	Number of participants
10	**0**
9	**0**
8	**0**
7	**0**
6	**1**
5	**4**
4	**3**
3	**1**
2	**9**
1	**7**
0	**7**
TOTAL	**32**

As illustrated in Table 4, most of the targets were unfamiliar to most of the participants prior to this study. No participant knew seven or more targets, and only one knew six targets productively. In total, eight participants knew four or more targets at the pretest, 17 knew fewer than four, and seven knew no target lexical phrases at all.

5.1.3 Analysing receptive and productive gains

Three of the four research questions asked about the relationship between gains in knowledge of the targeted lexical phrases and the Language Learning Orientation Scale (LLOS), the Autonomous Language Learning Behaviours (ALLBs) questionnaire, and the reading span test. Thus it was necessary to calculate the gains on the receptive and productive measures. This was done by subtracting the scores at Time 1 (T1) from the scores at Time 2 (T2) for each participant. Note that negative gains represent attrition. The results are shown in Tables 5 and 6.

Table 5
Receptive gains (difference between T1 and T2 scores)

Gains	Participants
-3	**1**
-2	**3**
-1	**2**
0	**4**
1	**6**
2	**3**
3	**4**
4	**3**
5	**4**
6	**2**
TOTAL	**32**

Table 6
Productive gains (difference between T1 and T2 scores)

Gains	Participants
-2	**1**
-1	**3**
0	**9**
1	**2**
2	**11**
3	**3**
4	**3**
TOTAL	**32**

Matched pairs t-tests yielded statistically significant gains in both tests as illustrated in Table 7 below. These results demonstrate that most participants acquired considerable receptive and productive knowledge of the target lexical phrases. Gains in receptive knowledge were larger than gains in productive knowledge.

Table 7

Mean scores on lexical phrases measures

	T1	T2	Gain
Productive knowledge of lexical phrases	2.06 (1.79)	3.31 (2.28)	1.25 (1.58)*
Receptive Knowledge of lexical phrases	4.38 (1.98)	6.16 (2.76)	1.78 (2.51)*
			* p≤ .05

There are two reasonable explanations for the finding of greater gains on the receptive measure. The first one is related to task complexity: while the receptive knowledge test required lexical phrase recognition and selection from a limited set of options, the productive test required participants to recall and retrieve lexical phrases from their lexicon. Secondly, the receptive measure was a multiple-choice test, on which it can be assumed that some correct answers were guessed. Although it can be argued that in the productive knowledge measure participants were cued with a French translation of the target and the initial letters of the words that made up the target, these resources could not have led to production of the targets. For one thing, the French translations were not literal, so participants could not have obtained the target by using the direct English equivalent of the words in parentheses. For another thing, the initials may not have been sufficient to enable participants to guess all the words involved in the chunks. The results in this study, therefore, seem to confirm that the productive knowledge measure called on more complex cognitive processes than the receptive knowledge measure.

5.1.4 Answers to the Research Questions

The purpose of the present study is to determine whether the gains on the receptive and productive tests are related to the three learner variables that were measured, namely, autonomy, motivation, and working memory capacity. In order to do so, we correlated the gains scores with the scores on the ALLB questionnaire, the LLOS questionnaire, and the reading span test. It is important to mention that only the pre-test scores on the LLOS and the ALLB questionnaire were used, as they were deemed the most pertinent in relation to the acquisition of the targets. The results obtained were used to answer research questions #2, #3, and #4:

2. Are gains in knowledge of **lexical phrases,** as shown by the receptive and productive test results, positively related to **autonomous language learning behaviours**?

3. Are gains in knowledge of **lexical phrases** positively related to the most **self-determined types of motivation**?

4 Are gains in **lexical phrases** knowledge positively related to **working memory capacity**?

5.1.4.1 Research Question #2

This question was intended to reveal a direct connection between ALLBs and the acquisition of lexical phrases. As Schmitt et al.'s (2004) analyses demonstrated no direct connection between motivation and the acquisition of lexical phrases, I hypothesized that there might be another variable that mediates between motivation and the acquisition of formulaic language. This conclusion is in part what sparked the following prediction: L2

learners acquire TL lexical phrases by means of a set of conscious, self-initiated behaviours that they perform for that purpose.

For different reasons, formulaic language is not easily introduced, taught, and learned in the L2 classroom (Dörnyei et al., 2004; Gatbonton & Segalowitz, 2005; Wray, 2000;); therefore, L2 learners who display a good command of formulaic chunks must carry out some sort of self-initiated actions with the purpose of learning these features that are seemingly elusive to them in formal L2 learning settings. In the context of this study, the specific hypothesis underlying Research Question #2 was that autonomous language learning behaviours would be positively related to gains in knowledge of the target lexical phrases. Pearson correlations were run between receptive and productive gains and the scores on the five different categories of behaviours introduced in the ALLB questionnaire in the pretest condition. This procedure yielded no significant correlations between the AALB and either measure: in the case of receptive knowledge gains and scores on the ALLB questionnaire, correlations ranged from -.119 to .085; for productive knowledge gains and scores on the ALLB questionnaire, the range went from -.381 to .020.

Although this was not expected, there are a number of reasons that could explain these results. First of all, the questionnaire may not have included the specific behaviours that participants perform although that could not be avoided: it would have been impossible to produce an exhaustive inventory of all the possible ALLBs that learners carry out. Secondly, the behaviours in the questionnaire introduced specific purposes that may not have matched the participants' own objectives. Thirdly, the participants may have agreed with the behaviours in all five categories included since every one of them

corresponded to positive language learning actions. In other words, they represented what the ideal L2 learner would do. Finally, since the researcher was also the teacher, some learners may have agreed with the behaviours in order to please the teacher/researcher.

An important limitation of the autonomy measure in this study is that it fails to address two important aspects related to the performance of ALLBs that are believed to have an impact on the acquisition of lexical phrases. The first one is the level of appropriateness of the behaviours to the acquisition of formulaic language. As a reminder to the reader, the categories of ALLBs are as follows:

1. SOSE- seeking opportunities to socialize in English;
2. AASBI- aligning attention to selected bits of input;
3. PSBI- practicing selected bits of input;
4. SL2E- seeking L2 evaluation; and
5. SOP- seeking opportunities to practice.

It can be argued that the most appropriate types of ALLBs for formulaic language learning are AASBI and PSBI, as they imply that certain cognitive processes are consciously put to work with the intention of acquiring some L2 features.

The second limitation is that the questionnaire does not ask about the frequency of performance of the behaviours. Learners who have performed some of them only occasionally may have felt inclined to agree with the statement at hand. The questionnaire, therefore, failed to discriminate between learners who perform one or some ALLBs on a regular basis and those who occasionally, though rarely, perform one or more of them.

Any of the problems with the questionnaire discussed above could have weakened the association between gains and the ALLBs discussed.

5.1.4.2 Research Question #3

The results demonstrate that there is no significant correlation between any of the seven self-determination subscales along the amotivation, extrinsic motivation and intrinsic motivation continuum and gains in knowledge of the target lexical phrases. The correlations between the scores on the pretest LLOS and the receptive gains ranged from -.315 to .184 and between the pretest LLOS and the productive gains ranged from -.229 to .147.

Although the Self-Determination Theory of motivation has been operationalised and validated in a number of studies (Noels, 2009; Noel et al., 2000), to my knowledge, it has never been used in research with the aim of observing the relationship between motivational orientations and L2 gains. The most evident problem with the self-determination measure (LLOS questionnaire) used in this study is that some participants were observed to have high motivational orientations at different points of the continuum. For example, some participants were shown to be extrinsically and intrinsically motivated at the same time. This is not considered to be problematic per se since it is possible to have more than one motivation for doing an activity. However, the quantitative analysis run to answer this question revealed no connection between self-determination and gains in knowledge of lexical phrases. Another important consideration is the fact that motivation has been observed to fluctuate for several reasons, and the LLOS scores involved in the correlations at hand come from the T1

condition administered on the first day of the course/treatment. Therefore, participants' motivation could have changed throughout the weeks of the treatment, and although there is no significant association between the gains in knowledge of the targets and the pretest LLOS scores, the finding might have been different at another point in the course.

This question was asked because of the belief that autonomous language learning behaviours would be the consequence of self-determination. This is a big claim that cannot be sustained by this investigation. Instead, the focus is placed on the hypothesis that if there is a strong positive association between ALLBs and gains in knowledge of the target lexical phrases, then, based on the assumption that self-determination fuels these behaviours, gains in knowledge of lexical phrases would also be positively associated, although indirectly, with self-determination.

5.1.4.3 Research question # 4

Following Skehan's (2002) argument that different L2 features call on different language learning abilities, I set out to investigate a possible role of working memory capacity, the main functions of which are to process and store information, in the acquisition of formulaic language. The trade-off between processing and storage influences the amount of time information stays in working memory and its potential consolidation in long-term memory. Accordingly, the instrument used was the reading span test devised by Daneman and Carpenter (1980), which measures the trade-off between processing and storage.

No significant association was found between the scores on the reading span test and the gains in knowledge of the target lexical phrases, where the correlation was .165

with the receptive gains and .108 with the productive gains. An explanation for this is that the range of scores was low, that is, participants displayed very limited variation in their scores. In fact about 75% of the participants demonstrated the lowest level of working memory capacity on this test: 2 out of 6. These results are difficult to interpret with the information available, as it is impossible to ascertain whether they are really indicative of limited working memory capacity or of a measure application problem. The latter is a real possibility since the test was not exactly the same as the one used in the original study. Although all the steps in the preparation and taking of the test were followed, there were two important modifications. First, in the original study, this test was taken by NSs of English; therefore, given that the participants in the current study were NSs (or very proficient speakers) of French, it seemed necessary to translate the statements into French (see Appendix G). Second, participants were voice recorded as they took the test in order to confirm their performance, which may have made them self-conscious about their pace of reading or the way they sounded as they read. In addition to the modifications, there was a situation that did not occur in Daneman and Carpenter's study: As explained in the methodology section, participants' reading span was established by their capacity to correctly recall the last word of two out of three sets of sentences. while in the original investigation no participant correctly recalled one set of sentences above their reading span, in this study some students did recall one set of final words above their span.

5.1.5 Conclusion of quantitative results and discussion

Although the results reported here differ from what was expected in this investigation, they do not disconfirm the hypotheses underlying the three research questions addressed so far in this chapter. Rather, what these results suggest is that the questions need to be approached differently. For one thing, the learner variables such as motivation and autonomy need to be measured at intervals throughout the learning process, as they have been observed to vary due to a myriad of factors. For another, the questionnaires and tests used to measure these variables need to be modified to better fit the purposes of this study. Finally, these results suggest that more qualitative research along the lines of what was introduced by Dörnyei et al. (2004) may be necessary to obtain more complete and accurate learner information. We will turn now to the qualitative data that were obtained through the individual interviews.

5.2 Qualitative data analyses

5.2.1 Introduction

In light of the data obtained through questionnaires and the information gathered in the individual interviews, I analysed the change in mastery of the target lexical phrases from Time 1 (T1) to Time 2 (T2) of 14 participants. The changes were labeled using the nine categories formulated by Schmitt et al. (2004), illustrated in Table 8 (see Appendix H for a detailed description of gains per participant included in the sections below). Given that there were 32 participants who took a pretest and a posttest, which each contained the ten target lexical phrases, there were 320 opportunities for lexical phrase learning.

Table 8

Change in degree of knowledge of the target lexical phrases

T1	T2	Description	N of instances
Unknown	Unknown	No learning	80
Unknown	Receptive	Learning to Receptive State*	61
Unknown	Productive	Learning to Productive State*	21
Receptive	Unknown	Attrition	19
Receptive	Receptive	Stable Receptive Knowledge**	38
Receptive	Productive	Enhancement of Knowledge*	34
Productive	Unknown	Attrition	4
Productive	Receptive	Attrition	11
Productive	Productive	Durable Productive Knowledge**	52
TOTAL			320

*Learned in study **Prior knowledge

If we consider the gains per category, the picture is not very positive, as the category with the greatest number of cases is the *no learning* category. In Schmitt et al.'s study (2004) it was the *durable productive knowledge* category that had the highest number of cases, which indicated participants already knew the targets productively prior to the treatment. This finding can be explained in terms of the L2 proficiency level. While in Schmitt et al.'s study, participants were advanced ESL learner with experience in EAP settings, participants in the current study were beginner and high beginner ESL learners with no experience in EAP. Furthermore, their registration in the course was not an option but a requirement.

In broad terms, the three learning categories (*learning to receptive state, learning to productive state* and *enhancement of knowledge*), when combined, yielded the highest number of cases with 116 instances of learning. Then came 90 instances of the prior knowledge categories (*stable receptive knowledge* and *durable productive*), 80 instances of *no learning*, and 34 instances of *attrition*. The instances of learning outnumbered the

instances of no learning by a 3.4 to 1 ratio, which is very encouraging considering the nature of the course (one weekly meeting of three hours for 13 weeks) and the characteristics of the participants (beginners and high beginners). However, if we concentrate on the gains in productive knowledge, only twenty participants gained productive knowledge of any of the target lexical phrases.

5.2.2 Gains, levels of self-determination, and performance of ALLBs

What follows is a portrait of a subsample of 14 participants whose gains in the targets make them interesting to analyse: nine of them have been categorized as successful learners and three of them as non-successful learners. In order not to breach the confidentiality agreement signed between the participants and the researcher, pseudonyms have been used. At the end of this section, Research Questions #1, #2, and #3 will be addressed individually, namely,

1. Are **autonomous language learning behaviours** positively related to the most **self-determined or intrinsic types of motivation**?

2. Are gains in knowledge of **lexical phrases** as shown by the receptive and productive test results positively related to **autonomous language learning behaviours**?

3. Are gains in knowledge of **lexical phrases** positively related to the most **self-determined types of motivation**?

5.2.2.1 Successful Cases

1. Carla's pretest scores were very high: she knew four targets productively and four receptively. Her posttest indicated four instances of durable productive knowledge and one instance of stable receptive knowledge. Most importantly, there were five instances of learning: three instances of enhancement of knowledge, one learning to productive state and one learning to receptive state. Her scores on the LLOS questionnaire indicate that she agreed equally with the statements in the external regulation subscale and the intrinsic motivation-accomplishment type. However, in the interview, her orientation for English learning appeared to be only externally regulated as she identified traveling as her main reason for learning English. In the ALLB questionnaire, she expressed agreement with all the categories, but the highest level of agreement was with statements pertaining to the PSBI (practicing input) category, which she also confirmed in the interview. She stated that for new words and expressions, she reads them and repeats them many times in order to memorize them. Carla reported having little contact with Anglophones in English at present, but we can conclude that she has been exposed to much more English input that the average participant in this study because of her year of intensive English (five months/five months) and her student exchange to Saskatchewan. In fact, she was surprised to have been placed in the beginner college English course, as in high school she had always been in the advanced "anglais enrichie" groups. In terms of her answers to the LLOS and the ALLB questionnaires, Carla's case partially supports the hypotheses implied in the research questions addressed here: she displays high levels of self-regulation in the LLOS questionnaire, and she consciously performs varied types of ALLBs with the intention of improving the TL as observed in the ALLB

questionnaire. However, her orientation for learning English seemed externally regulated in the interview, and this can be considered counter evidence to one of the hypotheses for this study. This consideration should be tempered by the fact that traveling is an activity that may be important to her self-concept and, most probably, is not externally imposed. In other words, if traveling is considered necessary for her personal development, and if to accomplish this, she needs to learn English, then L2 learning could be considered as a self-determined, not externally imposed, activity.

2. Anne's pretest scores were quite high: she knew five targets productively and two receptively. Her gains are also very high as she enhanced her prior receptive knowledge to productive knowledge, and two of the three unknown targets in the pretest were known receptively in the posttest. The five prior productive knowledge instances were maintained in the posttest, indicating that these lexical phrases had solidly entered her lexicon. In sum, her posttest showed only one instance of no learning. Her scores in the LLOS questionnaire revealed only mild levels of agreement with the intrinsic motivation-knowledge category, but in the interview she identified professional reasons as well as traveling as the main reasons for learning English. This suggests that her orientation was externally regulated. In the ALLB questionnaire she expressed mild agreement with the statements pertaining to the AASBI (alingning attention) category, and she confirmed this during the interview. For new words and expressions, she reads texts in English and asks her Anglophone friends to explain the meanings of unknown lexical items and their use. She believes that in order to learn an L2, one needs to be in contact with TL group members, but although she herself has Anglophone friends with whom she communicates in English, in the interview she did not explicitly identify contact with NSs as one the

actions she performs to improve her knowledge of English. Anne used to live in an Anglophone area of the city and had English-speaking friends. Although she no longer lives in there, she still has Anglophone friends with whom she communicates in English. This suggests that she may have been exposed to rich and sustained English input, facilitating the learning of idiomatic lexical phrases by frequency of exposure. The orientation she displayed in the LLOS questionnaire, the type of orientation discussed in the interview, and the behaviours she identified in the interview as well as those observed in the ALLB questionnaire support the hypotheses about formulaic language learning: gains in knowledge of lexical phrases are positively related to high levels of motivation, and gains are also positively related to performance of autonomous language learning behaviours.

3. Adèle's prior knowledge was rather limited: she only knew one chunk productively and another one receptively. Her gains were considerable as she learned four targets receptively and one productively. She also managed to enhance the instance of prior receptive knowledge, but attrited to receptive state on the one instance of prior productive knowledge. Her scores on the LLOS questionnaire showed very moderate agreement with the statements in the external regulation subscale and disagreement with all the other subscales. However, a closer analysis of her statements and opinions during the interview revealed that her motivation for learning English was both self-regulated and externally regulated, as she stated that she wanted to learn English because of the challenge that it represents to her and said she would like to know more than one foreign language. Although she was born in Quebec, she considers Spanish to be her L1 and French her L2, so English is her second L2. She also mentioned that she needed to learn English for her

future career. Her autonomous language learning behaviours are also revealing: on the ALLB questionnaire she showed mild agreement with statements in the AASBI (aligning attention), PSBI (practicing input), and SL2E (seeking evaluation) categories. In the interview she claimed to listen to English on the radio or on TV to practice, and to have never failed to do her English homework. In order to learn new words and expressions, she writes them and rewrites them, so that she can learn them by heart. Nevertheless, she claimed to have no contact with Anglophones. Her case lends support to the hypotheses underlying Research Questions #2 and #3. For one thing, she performs autonomous language learning behaviours with the intention of improving her English ability, and for another, her orientations for learning English are self-determined (identified regulation). Adèle obtained the highest final mark in her class, and obtaining high marks in this course, as in all college courses, will enable her to pursue studies at university level. In addition to needing good marks to get into a university program, she also mentioned in the interview that she needed English for her future career.

4. Doug had one instance of prior productive knowledge and four instances of prior receptive knowledge on the pretests, and he ended up knowing all the targets: three of them productively and seven receptively. However, he attrited on the single instance of prior productive knowledge to receptive knowledge on the posttest. His results on the posttest show that he was able to enhance three instances of receptive knowledge to productive state, and that he made five receptive knowledge gains. His scores on the LLOS indicate that his motivation is externally regulated. This was also confirmed in the interview, where he stated that his motivation comes from the importance that English has in his field of studies and work – Information Technology. His scores on the ALLB

questionnaire indicate that he agreed with the statements in the AASBI (aligning attention) and SOP (seeking practice) categories. He stated that in order to learn new words and expressions, he listens for them, writes them, reviews them and tries to find a mental image to associate them with. He rarely uses English in his everyday life, and his main contact is through school, films, TV, the Internet, and an additional evening English course he was taking at the same time of his ESL college course. Doug's case supports the hypotheses for Research Questions 1, 2 and 3. Although according to the LLOS, his motivation level is the least self-regulated in the extrinsic motivation subscales, he explicitly stated that English is very important for his field of studies and work, which suggests that learning English is important for his personal development. This, according to Noels (personal communication, July 7th, 2011) could be considered an example of identified regulation, which is the most self-determined point in the extrinsic motivation continuum. In terms of the personalized actions he performs in order to improve his English skills, his case supports the prediction that ALLBs would be associated with gains. The strongest evidence for this is the fact that, as a way of seeking more opportunities to learn and practice English, while he was taking his college ESL course, he was also attending an evening English course at a language school with the sole purpose of improving his L2 skills, as there were no credits assigned to it.

5. David started off with two instances of productive knowledge and three of receptive knowledge. The results on the posttest show that he gained two instances of productive knowledge and one instance of receptive knowledge. In addition, he enhanced two instances of receptive knowledge to productive state and had no instances of attrition. In total, he made five gains with only two instances of no learning. Based on his answers

on the LLOS questionnaire, his orientations to learn English correspond to indentified regulation, but this conflicts with the information he provided during the interview, which is associated with introjected regulation. Then he stated that he wants to learn English to be able to reply when spoken to in English. He also claimed to feel proud of himself when he can communicate in English, and humiliated when he is unable to do so. In terms of autonomy, his scores on the ALLB questionnaire show that he mildly agrees with all the categories of behaviours, suggesting that he performs all the actions included with the aim of improving his English, especially those of the AASBI (aligning attention to selected bits of input) and PSBI (practicing selected bits of input) kind. In the interview he stated that he tries to listen to English as much as he can because he enjoys it and feels that some expressions are better said in English than in French. For new words and expressions, he writes them and adds a phonetic description next to them, so that he can remember how to say them. He seems to have some contact with Anglophones through work and friends, and claims to do many things in English, such as watching TV and films, and playing video games although he did not really identify these activities as contexts for language learning. This participant's level of self-determination, and his performance of ALLBs are optimal for the acquisition of formulaic language. For one thing, he enjoys listening to English, is well aware of the occurrence of expressions and has a particular way of helping himself to acquire them. For another thing, the goals he has set for himself, and which are dependent on his learning of English, are well integrated into his self-concept. In other words, these goals are part of what he thinks he needs to be, so the pressure to learn English is self-regulated. David's case supports the hypotheses of Research Questions 1, 2 and 3.

6. Keira's prior knowledge of the targets consisted of one instance of productive knowledge and six instances of receptive knowledge. She made important gains, as she enhanced four instances of her prior receptive knowledge to a productive state and gained receptive knowledge of two targets. She maintained the instance of prior productive knowledge and attrited on one instance of prior receptive knowledge. Her case is special, as from her scores on the LLOS questionnaire, it appears that her motivation to learn English is both extrinsic and intrinsic: she displayed high levels of agreement with the statements for external regulation, and two types of intrinsic motivation – knowledge and stimulation. However, during the interview, she identified work and traveling as her main motivations to learn English. Once again, this information is to be analysed in light of what Noels describes as the achievement of activities that are valuable to the self. Therefore, traveling and career should be considered orientations at the identified regulation point of the self-determination continuum, and not as being externally regulated. Her scores on the ALLB questionnaire clearly show high levels of agreement with the statements pertaining to all the categories, suggesting that she performs most of the actions included in the questionnaire. When asked about her particular behaviours to improve her knowledge of English, she claimed that she never fails to do her homework and constantly reviews what has been covered in class. For new words and expressions, she writes them and reviews them in order to memorize them. These behaviours fall in the AASBI (aligning attention to selected bits of input) and PSBI (practicing selected bits of input) categories. Although her contact with Anglophones seems to be quite limited, she tries to keep in touch with English through films and some other activities that allow her to listen to it and practice aural comprehension. In the interview Keira said that she

enjoys listening to Anglophones speak and discovering new words and expressions. In terms of motivation, her case supports the hypothesis laid out for this study, as it was predicted that the most self-regulated types of motivation would be positively related to gains in the target lexical phrases: Keira displayed high levels of self-determination in both the LLOS questionnaire and the interview. With respect to autonomy, she also supports the belief that autonomous language learning behaviours are positively related to lexical phrases gains, as she demonstrated agreement with all the categories in the ALLB questionnaire, and in the interview she said that she performs specific actions in order to learn new words and expressions

7. Flavia's prior knowledge was rather good. She knew two targets productively and three receptively at the pretest. Her posttest results show that she maintained her productive knowledge and added a new instance to this category. She also enhanced one instance of prior receptive knowledge to productive state, and gained receptive knowledge of three targets. According to the scores on the LLOS questionnaire, her orientation is at the identified regulation level, which is the most self-regulated type of extrinsic motivation. However, during the individual interview, she mentioned her future studies as one of her motivations to learn English, along with the possibility of communicating with others. This suggests that her orientation to learning English, although seemingly externally regulated, is very much related to her personal values, and therefore, self-determined at the identified regulation level. In relation to autonomy, her scores on the ALLB questionnaire reveal high levels of agreement with all the categories of behaviours, which suggests that she performs most of the actions included in the questionnaire. During the interview, she claimed to perform actions of the AASBI

(aligning attention to selected bits of input), SOSE (seeking opportunities to socialise), and, PSBI (practicing selected bits of input) types: she said that she tries to speak in English with Anglophones, and for new words and expressions, she tries to memorize them and uses them in context as much as she can. If we consider her type of motivation according to the LLOS questionnaire and the interview, as well as her performance of ALLBs, her case supports the hypotheses addressed in the present section.

8. At the pretest, Karine demonstrated three instances of productive knowledge and two instances of receptive knowledge. She made substantial gains during the study: the two instances of prior receptive knowledge were enhanced to productive knowledge, while her three instances of prior productive knowledge were maintained. She also gained four more instances of receptive knowledge. In sum, her results on the posttest show that she knew nine out of the ten targets: five productively and 4 receptively. Her scores on the LLOS questionnaire indicate that her orientation to learning English is both at the external regulation and introjected regulation levels. During the interview the motivations she identified for learning English were her future job and the ability to understand movies, suggesting that her orientations are self-determined at the identified regulation point of the continuum, and which I hypothesized to be optimal for the acquisition of the target lexical phrases. However, her answers on the ALLB show that she disagrees with all the categories of behaviours, which suggests that she does not really perform any of them. In the interviews she did not identify any particular behaviour for learning new words and expressions, apart from the use of dictionaries. When asked about her contact with English and with Anglophones, she said that she speaks in English with a friend, customers, and colleagues. In addition, she also watches

TV and films in English. Although difficult to ascertain, we can hypothesize that when she is involved in interaction in English, and when she watches TV or films in English, she may perform some behaviours that favour the acquisition of formulaic language in general and of the targets for this study in particular. However, given that ALLBs are conscious actions carried out with a clear L2 learning goal, then we can say that she probably does not perform any actions to improve her English skills. The question that arises is how we can explain her high gains. There are three possible overlapping explanations: the treatment, her language learning aptitude, and the amount of input she has been exposed to. We will get back to this participant's case in the *Interesting Findings* section below (5.2.5).

9. Jennifer's prior knowledge of the targets consisted of two instances of productive knowledge and three instances of receptive knowledge. Her gains were quite substantial: she maintained the two instances of productive knowledge, gained an additional instance of productive knowledge, and enhanced one of her initial instances of receptive knowledge to productive state. In addition, she gained three instances of receptive knowledge. In terms of motivation, in both the LLOS questionnaire and the interview, her orientations for learning English seemed to be externally regulated: she stated that she needs to speak English for work. She also said that she would not continue to study English unless it were necessary for her work, suggesting that she has not integrated English learning as a valuable achievement related to her professional development, but as a external reward to get a job if it requires English proficiency. With respect to her autonomous language learning behaviours, she states that in order to improve her L2, she listens to English on TV, on the radio, or in films, as she was told

that these activities could help improve her L2 skills. In addition, she believes they are the best contexts to learn new words and expressions, but does not really address what ALLBs she carries out while in them. Although Jennifer attempted an answer in relation to her ALLBs, alluding to silent repetition of new words and expressions, in the ALLB questionnaire, she appeared to disagree with all the categories, including the one that explicitly states repetition of new lexical items. This incongruence suggests either that she does not perform this behaviour at all, or that she does not perform it with the clear objective of acquiring new lexical items. At this level, her case is counter to what is hypothesized in this study as her performance of personalized actions towards L2 learning are not what the literature has led me to believe is conducive to formulaic language learning.

5.2.2.2 Non-successful cases

1. Aurore's prior knowledge of the targets was limited to one, which she knew productively. At the end of the study she demonstrated no productive knowledge of any of the targets. Her gains were five instances of receptive knowledge, and the one target she appeared to know productively in the pretest was classified as receptive knowledge in the posttest. Her scores on the LLOS questionnaire show that her highest level of agreement was with the statement in the identified regulation subscale. This was partially confirmed in the interview, where she said that her main motivation to learn English was being able to travel. In addition, she would like to communicate in English with her Anglophone friends. These orientations are between introjected and external regulation subscales, given that the main objective for L2 learning is outside the realm of the

learning context per se. However, as in most of the cases discussed above, it can be argued that the regulation does not come from an external source of pressure, but from a desire to achieve an objective that is a highly valuable activity for the learner. Therefore, her orientation can be considered equivalent to identified regulation. Her scores on the ALLB questionnaire show that her highest level of agreement was with the behaviours pertaining to the SOSE (socializing) type, which is also in accord with the information she provided in the interview: she claimed to practice English with friends who sometimes correct her. She stated that in order to learn new words and expressions, she underlines them and looks them up in the dictionary. This is a behaviour of the AASBI (aligning attention) type. However, although using the dictionary may favour the acquistion of one-word lexical items, it may not be the most appropriate behaviour to favour formulaic language acquisition. For one thing, dictionaries, especially those directed at beginner learners, do not contain many expressions, and those that are included are not entered as one lexical item, or chunk, but in connection to a one single word. With respect to her practicing English with friends, it can be argued that real, online communication is probably the best context to practice what one already knows. However, it is not necessarily the best context for acquiring new features given that the main goal to which a speaker and his/her interlocutor are committed is the exchange of meanings, not the acquisition of forms. In the interview she did not mention any of the AASBI (aligning attention) or PSBI (practicing input) behaviours even though in the ALLB questionnaire, she obtained the highest level of agreement in the items that referred to these very categories. In terms of self-determination, her case supports the hypothesis underlying Research Question #3, but in terms of ALLB, the picture is fuzzy:

her scores on the ALLB questionnaire and the information provided in the interview do not match.

2. Millie's prior knowledge was quite impressive: she knew six targets productively and three receptively. With the exception of one instance of attrition from receptive to unknown and one of enhancement of knowledge, there was no fluctuation in her knowledge from pre- to posttest. The fact that she knew six targets productively in both the pre- and post-conditions indicates that these lexical phrases were a solid component of her mental lexicon. Her scores on the LLOS questionnaire strongly suggest that she is amotivated, and her statements during the interview also confirm this: she expressed feeling quite comfortable with her level of English and claimed that she does not need to know more. She also said that the only thing that would motivate her to learn English would be to get rid of her accent, but she finds this objective impossible to attain. On the ALLB questionnaire, she showed disagreement with all the categories of behaviours, suggesting that she does not perform any of them. However, in the interview she acknowledged using English with her boyfriend's family and friends who are Anglophones, and she even identified speaking with them as one way of improving her skills in English. This behaviour falls in the SOP (seeking opportunities to practice) category, and it was included as one of the behaviours in the ALLB questionnaire, where she marked strong disagreement with it. In order to learn new words and expressions, she said that when she reads them, she tries to memorize them, but she did not really describe how she goes about memorizing them. Even though she had outstanding prior knowledge of the targets, there were three targets that she did not manage to get to the productive state. This could be interpreted as being related to her amotivation for L2 learning rather

than a ceiling effect. If we consider the former to be the explanation, her case gives support to the hypotheses underlying Research Questions #2 and #3 addressed in this section. However, her performance of ALLBs clouds the issue a bit: she clearly indicated she did not perform any of the behaviours included in the questionnaire, but in the interview she claimed to do a lot to improve herself in English, such as watching TV and films in English, using the Internet in English, and chatting with her Anglophone friends. Based on this information only, it is difficult to ascertain the kind of specific autonomous language learning behaviours she performs while she is doing all the activities above; however, this does not mean that she does not carry out any personalized actions with the intention of improving her English skills.

3. Cynthia did not make any gains. In fact, she even experienced a couple of instances of attrition. She knew three targets receptively prior to the treatment and maintained only one of them in the posttest. Her scores on the LLOS questionnaire indicate strong agreement with the statements in the identified regulation subscale. This observation was confirmed in the interview, where she claimed to be very motivated to learn English because she would like to go to university in Vancouver where they offer the program of her area of interest. In addition, she would love to able to speak a second and even a third language. On the ALLB questionnaire she showed fairly strong agreement with the statements in the PSBI (practicing input) and SL2E (seeking evaluation) categories although in the interview, she only discussed behaviours pertaining to the PSBI category: to learn new words and expressions, she writes them on cards and then tests herself to see if she can remember them. Her case does not support my hypotheses that ALLBs are positively related to gains in knowledge of lexical phrases, and that these gains are also

positively related to the most self-determined types of motivation. Her failure to gain productive or receptive knowledge of the targets does not seem to be related to her levels of self-determination or her performance of autonomous language learning behaviours, both of which, according to the literature, are optimal for formulaic language learning.

Paradoxically, the conditions for Cynthia to have high levels of contact with English speakers – or in Schumann's terms, low levels of enclosure- are very good given that her new boyfriend and his family and friends are Anglophone. However, and contrary to Millie's case, in the interview she acknowledged that she did not communicate with them in English. She claimed to be quiet every time her boyfriend and his family or friends speak in English, feeling unable to communicate or being too afraid to make mistakes. In class Cynthia always seemed extremely anxious about her skills in English. A number of times she came to me to express the stress caused by her feeling of incompetence in English and her inability to meet the objectives for the course. Her reaction to communicating in English appears to be an instance of *language shock*, one of the psychological variables in the acculturation theory, which is believed to be responsible for L2 learners' fear of being criticized or even ridiculed when using the L2 (Schumann, 1986). In Cindy's case, some kind of language shock may have acted as a barrier between her and L2 acquisition even though she had the sort of contact with TL speakers one would presume to be the least threatening to one's inhibitions. This information suggests that there may be other factors involved in the acquisition of formulaic language, such as affective and personality variables. In Cynthia's case, her level of anxiety may have impaired her ALLBs towards improving her L2, rendering them ineffective for their purpose. This reflection is in accord with the findings in Dörnyei et al. (2004), where one

of the non-successful participants who worked very hard in order to improve her mastery of the L2 was also the one who displayed high levels of anxiety, and who had made no gains in formulaic language learning. In fact, that participant demonstrated several instances of attrition on her posttest. In Cynthia's case we can infer that her low L2 competence is related to her low L2 confidence, and that the relationship between the two acts as a barrier preventing her from believing in the success of the personal work she invests in L2 development.

4. Mark's prior knowledge of the targets consisted of two instances of productive knowledge and two others of receptive knowledge. The results on the posttest evidenced three instances of attrition: two from receptive knowledge to unknown and one from productive knowledge to unknown. He maintained productive knowledge of one target, gained one instance of productive knowledge and one instance of receptive knowledge. With respect to motivation, on the LLOS questionnaire he appeared to be externally regulated, but in the interview, he explicitly stated that he would love to travel and feels that he needs English in order to do so. This is equivalent to identified regulation. As for the ALLB questionnaire, he showed agreement with the statements in the AASBI (aligning attention), PSBI (practicing input), and SL2E (seeking evaluation) categories although in the interview he only mentioned behaviors pertaining to the SOP (seeking practice) and AASBI types. He stated that in order to improve his knowledge of English, he listens to the radio, talks to Anglophones, and takes notes in his English class. For new words and expressions, he stated that he writes them and underlines them, but he did not discuss any actions that he performs in order to memorize them or use them in context. He said he is at ease when he uses English, and although he is not in contact with

Anglophones now, he used to work as an ambulance driver and had to talk to English speaking patients and colleagues. He expressed enjoyment in speaking in English, but he particularly enjoys listening to English and writing in English, as he feels he has a talent for understanding English and writing in it. Drawing conclusions from Mark's case is not an easy task. For one thing, the orientation he expressed for L2 learning during the interview corresponds to what is hypothesized to be positively related to gains in knowledge of lexical phrases, and yet his gains are rather low. Moreover, with respect to ALLBs, his case does not support the hypothesis that gains in lexical phrases are positively related to the performance of ALLBs.

5. Claudette's prior knowledge of the targets was quite good: on the pretest she showed productive knowledge of five targets and receptive knowledge of one. Her results on the posttest, however, were rather poor: she displayed three instances of attrition from productive knowledge to receptive knowledge. She gained one instance of receptive knowledge and enhanced one target from receptive state to productive state. Her scores on the LLOS questionnaire revealed that she agreed with most of the statements in the identified regulation and intrinsic motivation-stimulation. However, in the interview she appeared to be amotivated: she stated that she would only be motivated to learn English if she were in an English speaking environment, and she also acknowledged not making efforts to improve her English skills. She said that at the beginning of the course she was really motivated, but lost motivation as the course progressed. This could explain why she seemed more motivated in the questionnaire than in the interview since the former was administered on the first day of class. On the ALLB questionnaire she showed agreement with all the categories of behaviours, but in the interview she did not identify

any action that she performs with the aim of learning new words and expressions. Moreover, she said that she usually translates them into French, which indicates that her main objective is being able to understand meanings, not necessarily acquiring the ability to use the forms involved. Based solely on the information obtained in the interview, Claudette's case fully supports the hypotheses underlying Research Questions #2 and #3: her low gains can be positively related to her lack of self-determination for L2 learning and lack of performance of ALLBs in order to improve her L2.

5.2.3 Generalizations gleaned from the participants' description

This section will provide a closer look at the data obtained through the scores on the LLOS and the ALLB questionnaires and the information gathered in the interviews. Although the cases described here are a subsample of the total number of participants, they provide a detailed profile of those who made substantial gains, as well as those whose gains were very limited or nonexistent.

The analyses above lead to the following generalizations:

1) In 13 out of the 14 cases discussed here, autonomous language learning behaviours are positively associated with the most self-determined types of motivation. This finding confirms the first hypothesis, namely that these two variables are connected; however, it does not reveal whether one precedes the other.
2) Autonomous language learning behaviours seem to be related to gains in knowledge of lexical phrases although important information concerning the appropriateness of the ALLBs performed, as well as frequency of performance,

was not included in this study. These variables could have an impact on the acquisition of formulaic language.

3) From the analysis of the cases introduced in this section, it is not possible to ascertain whether gains in knowledge of lexical phrases were related to high levels of self-determination. Some participants were shown to be self-determined, and yet made no or very limited gains. Similarly, it was observed that one successful participant displayed the least self-determined type of extrinsic motivation. Although this counter intuitive finding is in accord with what Schmitt et al. (2004) observed, more qualitative and quantitative research with larger numbers of participants is necessary to answer this question.

5.2.4 Discussion

As stated at the beginning of this section, the 14 participant descriptions introduced above will be used to address three of the four research questions proposed in this study, namely,

1. Are **autonomous language learning behaviours** positively related to the most **self-determined or intrinsic types of motivation**?

2. Are gains in knowledge of **lexical phrases** as shown by the receptive and productive test results positively related to **autonomous language learning behaviours**?

3. Are gains in knowledge of **lexical phrases** positively related to the most **self-determined types of motivation**?

5.2.4.1 Research Question #1

In the study carried out by Schmitt et al. (2004), the researchers suggest that there is no linear relationship between the learner variables they observed - attitude/motivation and aptitude - and the acquisition of the formulaic sequences they included in their study. In the present study it was hypothesized that the relationship between motivation and the acquisition of formulaic sequences is mediated by the performance of one or more autonomous language learning behaviours which, in turn, are fuelled by high levels of motivation. Therefore, these behaviours are hypothesized to be the consequence of self-determination. Considering that in formal settings the focus has rarely been placed on the teaching/learning of formulaic language (Wray, 2000), I have contended that through the performance of ALLBs, learners can acquire idiomatic chunks for contexts that do not usually take place in the classroom. Although the belief that ALLBs are the consequence of high levels of motivation (Spratt, Humphreys, and Chan, 2002) is not investigated here, it can be concluded that for 13 out of the 14 participants described in this section, the level of self-determination is related to the performance of autonomous language learning behaviours. Two participants were shown to be amotivated and evidenced no performance of ALLBs, while 11 participants whose self-determination level was equivalent to identified regulation carried out one or more ALLBs with the purpose of improving their knowledge of new words and expressions in English. Only one participant, Karine, demonstrated self-determined orientations for learning English and displayed no performance of ALLBs with the aim of improving her knowledge of new words and expressions, or her English skills in general.

Noels et al. (2000) observed that identified regulation, the most internalised type of extrinsic motivation, correlated the highest with antecedents and consequences of motivation. In light of this observation, and considering that ALLBs are believed to be the corollary of high levels of self-determination, I predicted that there would be a higher correlation between ALLBs and identified regulation than between ALLBs and any of the three types of intrinsic motivation - *knowledge*, *accomplishment*, and *stimulation*. The cases discussed here support Noels et al's findings.

This conclusion should be tempered by the fact that levels of motivation have been observed to vary depending on a number of learner and contextual variables (Dörnyei et al. 2004). The questionnaire and the interview took place at different stages of the course/treatment: the former was administered on the first day of the treatment, while the latter took place nine weeks later. Thus, the information gathered through the interviews and the LLOS questionnaire is complementary, rather than parallel. An interesting finding is that based on the interview, 11 of the 14 participants discussed in this chapter demonstrated English learning orientations at the identified regulation point of the self-determination continuum, which is the most self-regulated type of extrinsic motivation. This is somewhat surprising, considering that for college students, ESL courses are compulsory, therefore, not representative of their free will. This is less surprising if one takes into account the tight connection that exists in today's world, especially in North America, between English and various domains of human interest, such as traveling and professional development. In this light, we can conclude that since the self-determined orientations these learners describe entail English proficiency, it is likely that they do not consider English learning as an externally imposed activity, but rather as part of a

personally valuable achievement that represents or is in accord with, their self-concept (Noels, 2009; Noels, personal communication, July 7th, 2011; Noels et al., 2000).

5.2.4.2 Research Question #2

The hypothesis underlying the second research question is that gains in knowledge of lexical phrases are positively related to performance of autonomous language learning behaviours. As presented in the quantitative data section of this chapter, there is no significant correlation between gains in knowledge of the targets and performance of ALLBs. Nevertheless, the qualitative data present a more complex picture, indicating that one can associate these behaviours with the gains although there are other variables that may have overridden this association. They will be addressed at the end of this chapter.

The analysis of the data from the successful learners gives partial support to the hypothesis of the second research question. In the interviews seven out of the nine successful participants not only performed ALLBs with the intention of improving their general skills in the L2 and their knowledge of new words and expressions, but they explicitly discussed some of these actions. However, two successful students, Karine and Jennifer, did not support this hypothesis; this conclusion is based on both their responses on the ALLB questionnaire and the information they provided in the interview. These participants' cases are very similar: both of them expressed disagreement with all the categories of behaviours on the ALLB questionnaire. In addition, the information they provided during the interview strongly suggests that they do not carry out conscious and individualized behaviours with the purpose of improving their L2 skills. The details of these cases will be discussed below.

The picture of the non-successful students is fuzzy, and the information is somewhat contradictory in all the cases: either on the questionnaire or during the interview, all the participants in this category claim to perform one or more of the autonomous language learning behaviours. However, the information provided in the interview suggests two things: either the participants did not give a full account of the actions they perform, which they readily identified in the questionnaire, or the behaviours they claimed to perform do not have the specific purposes presented in the questionnaire, which would explain their disagreement with the statements included in it. This last possibility indicates that learners may have different purposes for some of the behaviours identified in the ALLB questionnaire, and that the statements should have been more general in order to include these purposes.

Furthermore, two variables that were not considered in this study, and which could be related to the low gains observed in this group, are the systematicity of ALLB performance and the type of behaviours involved.

For example, Cynthia discussed an interesting ALLB she performs in order to memorize new words and expressions: she writes them on paper cards and then tests her knowledge. However, what the questionnaire and the interview failed to reveal is how often she performs this behaviour. Given that she made no gains and even demonstrated a couple of instances of attrition, it is possible to hypothesise two things: that the targets were not part of her ALLB for learning vocabulary, or that this behaviour is not systematically performed.

Another example is Aurore whose low gains seem to be associated with the performance of inappropriate ALLBs. For vocabulary learning, she claimed to use a

dictionary, which may not provide enough contextualized exposure for new lexical items to become part of her lexicon. She also said that she practices speaking English with her friends, but this may not the be the best context for learning new L2 features given that the purpose of oral interaction is to encode and decode meanings as fast as possible, precluding the analysis of the forms involved.

Finally, there is another way of interpreting the mismatch between low gains and performance of ALLBs demonstrated by some non-successful learners: some participants may have agreed with the statements in the ALLB questionnaire, not because they perform them, but because they believed they should perform them in order to obtain desired L2 outcomes. In other words, since the behaviours included in the ALLB questionnaire represent what a good L2 learner does, they may have wanted to be considered good L2 learners. Participants may have agreed with the statements in order to demonstrate a more academic-oriented picture of themselves that could please the teacher/researcher.

It is important to underline that L2 learners are the recipients of much advice concerning the actions they can perform to improve their L2 skills. Most ESL learners have heard that performing actions such as listening to the radio in English, watching TV and films in English, and speaking with Anglophones could result in L2 proficiency gains. What was observed in the analysis of the interviews is that all the participants included in this chapter, successful as well as non-successful, identified one or more of these activities as part of their repertoire of ALLBs, but no participant explained what aspects of L2 learning these activities help improve, nor did they specifically refer to any particular action they carry out while engaged in them. Hence the importance of the

concept of autonomous language learning behaviours: these are behaviours that a learner has adopted with the purpose of improving one or many aspects of the L2, and they are personalized, that is, they do not fit all learners.

5.2.4.3 Research question #3

This question asks whether gains in knowledge of lexical phrases are positively related to high levels of motivation. In statistical terms, it was not possible to establish a positive connection between gains and high levels of self-determination, and the qualitative analysis included in this chapter gives insufficient support to a definite answer. Eight out of the nine successful learners demonstrated high levels of self-determination. However, three out of the five non-successful learners also demonstrated high levels of self-determination. These results seem to confirm what was observed in Schmitt et al. (2004): motivation is not directly associated with formulaic language learning.

Nevertheless, there are a number of considerations to bear in mind before drawing this conclusion. First of all, motivation was not operationalised in the same way here. While this study used Noels et al.'s (2000) questionnaire, which in turn is based on Deci and Ryan's Self-Determination Theory (SDT), Schmitt et al. drew on Dörnyei's model of motivation. Therefore, the seeming support that the findings in this study give to Schmitt et al. concerning the relationship between gains and motivation may only have been serendipitous. In addition, it was possible to observe that a considerable number of learners demonstrated on the LLOS questionnaire that they have more than one type of orientation. In fact, some of them appeared to be intrinsically as well as extrinsically

motivated. Noels (personal communication, July 7th, 2011) indicates that this is not uncommon as L2 learners may have more than one reason to learn the L2 at hand.

In this study the only way of knowing which orientation stands out as being the most prominent, or to establish whether they are equivalent in importance, was through the individual interviews. Nevertheless, the hypothesis for Research Question #3 could not be confirmed based on the information from the interviews. It is suggested here that in order to better understand the role of motivation in the acquisition of formulaic language, extensive quantitative and qualitative research involving larger groups of participants is called for.

5.2.5 Interesting findings

Data from two of the participants discussed above, Karine and Jennifer, suggest that variables other than levels of self-determination and performance of ALLBs may better explain the substantial gains these participants made.

One of those variables is the treatment. Although not considered among the variables to observe in any of the research questions for this study, and this given the lack of a control group, the treatment may have had an impact on the learners included in this section and probably on other learners, too, considering the significance of the gains of the whole sample demonstrated by the t-test reported in the quantitative analyses section. This possibility is in line with the conclusion of Schmitt et al. (2004), whose treatment design and measures were partially replicated here: the level of exposure to the targets seemed to have been sufficient for some acquisition to have occurred.

A second variable that could have been involved is language learning ability, which was observed in this study in terms of working memory capacity. Measured by means of a reading span test, working memory capacity did not yield significant correlations with gains in knowledge of lexical gains. However, this does not mean that there is no relation between language learning ability and the acquisition of formulaic language, rather that in this study, this variable was not appropriately operationalised, or that there are other abilities involved in formulaic language learning which were not measured here.

A third possibility is based on Dörnyei et al.'s (2004) findings: contact with members of the TL group is the variable that could best predict formulaic language learning among their sample. Their goal was to observe how a group of learners fared with the sociocultural aspect of L2 learning. Their research was carried out in light of Schumann's acculturation theory, which, in broad terms, intends to explain L2 acquisition by immigrants in terms of a number of social and affective factors that are believed to create distance or proximity with the TL group. Participants in the present study, however, are not immigrants who are trying to learn the local language, but residents who are trying to learn English, another local language of Montreal, and who do not need to adapt to a new culture in order to function in their everyday lives. In spite of this essential difference, Schumann's theory includes the construct of *enclosure,* which was central in Dörnyei et al.'s study, and this is of interest for the present study in order to interpret the findings in cases such as Karine's and Jennifer's. Enclosure "refers to the degree to which the [L2] group and the TL group share the same churches, schools, clubs, recreational facilities, crafts, professions and trades. If the two groups share these social constructs then enclosure is said to be low, contact between the two groups is enhanced, and acquisition

of the TL language by the [L2] group is facilitated" (Schumann, 1986; p. 381). Based on what Karine and Jennifer stated in the interview, although they have regular contact with Anglophones, which gives them systematic exposure to L2 input, they do not consider this contact as part of their ALLBs. This suggests that for them, contact with members of the TL group takes place for purposes other than English learning, such as work and friendship.

Although not among the successful examples, Millie's case can also be analysed in light of Schumann's notion of enclosure. She demonstrated strong disagreement with all the behaviours in the ALLB questionnaire and did not really identify any language learning action that she carries out in order to learn new words and expressions. In the interview she claimed to perform many actions in English, such as watching TV and films, chatting (MSN), and even speaking in English with her long-term boyfriend's family and friends. Her outstanding knowledge of the targets at the T1 condition suggests that her close contact with Anglophones may have played a decisive role in her learning of formulaic language in general. This state of affaires seems to support the belief that contact is the condition sine qua non for formulaic language learning. However, her gains were very limited in spite of the fact that she never ceased to be in contact with Anglophones during the treatment. How did she manage to know six out of ten targets before the treatment? Why did she make limited gains? These questions cannot be answered with the information obtained in this study only.

As discussed in Schmitt et al. (2004), this knowledge could be the result of incidental learning. However, it is argued here that incidental learning cannot explain all the knowledge of L2 formulaic sequences a learner can acquire outside of the L2 classroom,

especially of those that are less transparent, such as "it is likely to + verb". Millie, Karine, and Jennifer may have used some ALLBs in order to learn formulaic sequences that made them feel competent and functional in the English-speaking contexts in which they are usually involved; they must have cared about these features, as they were useful for the type of interactions they have in English.

It makes sense, then, to fathom that contact per se is not as essential for the acquisition of formulaic language as it is the way in which L2 learners capitalize on this contact, that is, the conscious, individualized actions performed while in contact with the TL group. A familiar example to illustrate this interpretation is Wes, the subject of Schmidt's seminal case study (1983), who, apart from being in constant contact with Anglophones, also performed a number of actions with the intention of learning formulaic sequences. He was observed to listen for them, repeat them out loud, and even predict them in TL interaction. These are good examples of ALLBs, which in Wes's case, appeared to translate into the acquisition of useful formulaic sequences.

5.3 Chapter conclusion

This chapter includes a report and a discussion of both quantitative and qualitative results. It aimed at answering the four research questions proposed in this study. The results were fairly similar to the studies that inspired, and were partially replicated in, the present investigation, namely, Schmitt et al. (2004) and Dörnyei et al. (2004). Although this study can be considered a replication, it is important to highlight the new aspects that it brought into the analysis of formulaic language acquisition, namely the autonomous language learning behaviours (ALLB) and working memory capacity.

The quantitative analyses could not confirm any of the relationships hypothesized, but they did not in any case disconfirm them. This suggests that better methodology is called for to address the research questions posed here. The qualitative analyses, however, were more successful in revealing two of the connections hypothesized, namely, the connection between self-determination and performance of ALLBs and the connection between gains in knowledge of the targets and performance of ALLBs. These findings are encouraging and suggest that qualitative research is an appropriate way of analyzing the variables under scrutiny in this study.

Chapter VI

Conclusion

6.1 Introduction

As explained in the introduction to this thesis, the inspiration for the present study came from my personal experience as an L2 learner, from the experiences of other learners such as Wes (Schmidt, 1983), and from extensive observation of my students as an ESL instructor. The design of the study was largely based on the research developed by Schmitt et al. (2004) and Dörnyei et al. (2004), but it also drew on the research and theory developed by Benson (2001), Wray (2000; 2002), Fitzpatrick and Wray (2006), Schumann (1986), Noels (2009), and Noels et al. (2000). The work of these scholars has shaped my own interest in certain areas of SLA research, leading to this study, the main objective of which was to observe the acquisition of formulaic language and its relationship to learner variables, such as motivation, autonomy, and language learning ability.

6.2 Contributions of the study

This study is, as far as I know, the first attempt at linking abstract constructs, such as autonomy and self-determination, to actual L2 outcomes, and in so doing, it opens up new ways of approaching learner characteristics and their impact on the acquisition of particular L2 features. One of its contributions is the development of the Autonomous Language Learning Behaviours (ALLB) questionnaire, which introduces a way of operationalising autonomy. Autonomy has attracted a lot of attention in the last decade, but it has mainly been discussed in theoretical accounts and in empirical research

involving other learner variables, and never to my knowledge, involving L2 gains. The ALLB questionnaire is a measure that can be used to identify and quantify the actions learners carry out with the purpose of acquiring specific L2 features.

Another contribution of this study is the analysis of the relationship between the Self-Determination model of motivation and ALLB. As stated above, the Self-Determination Theory considers autonomy as one of three basic psychological needs that have to be satisfied in order for orientations to be self-regulated. In this view, autonomy precedes self-determination. Although the question of whether autonomy precedes or follows self-determination was not addressed here, what was hypothesised in this study was that autonomy, observed through the ALLBs, is associated with high levels of self-determination. The qualitative analyses confirmed the hypothesised relationship between the two constructs. This is a step ahead in the study of motivation and its links to L2 acquisition in that the results reported here, as well as those reported in Schmitt et al. (2004), suggest that there is no linear relationship between motivation and formulaic language acquisition. The results in this study suggest the existence of other learner variables which mediate the relationship between the two.

Although this study is a partial replication of previous research, it relates learner variables, namely, self-determination, autonomy, and working memory capacity, to the acquisition of formulaic language. To my knowledge, these relationships had never been investigated before my study. This is, therefore, an initial attempt to observe the connections between them and formulaic language acquisition.

6.3 Research limitations

A number of limitations can be associated with the novelty of the investigation.

1. Although a reliable and valid measure for motivation, as evidenced by a number of studies by Noels and colleagues, the LLOS questionnaire used to observe participants' level of self-determination was found not to be the appropriate measure to reveal the relationship between gains in knowledge of the targets chunks and motivation. This is due to the fact that self-determination is conceptualised as a continuum on which learners' orientations for L2 learning can be located at more than one point at the same time. In this investigation it was possible to observe learners who appeared to be extrinsically and intrinsically motivated simultaneously. This may have clouded the connection hypothesised between the two variables at hand. To avoid this confound, in a study involving gains, self-determination should be monitored through repetitive interviews and journal entries rather than by means of questionnaires, such as the LLOS.
2. To measure the performance of autonomous language learning behaviours, the ALLB questionnaire was devised. It was piloted, and the reliability of the item sets pertaining to the constructs of interest was determined by calculating Chronbach's alpha coefficients for internal consistency. Although this can be considered the study's most important contribution to the investigation of learner autonomy and its impact on formulaic language acquisition, it could not reveal two important aspects that, in hindsight, should have been considered in order to better answer the research question concerned. These aspects are 1) frequency of the performance of the behaviours and 2) appropriateness of the behaviour(s)

performed. Another limitation of this questionnaire is that it included a restricted number of behaviours, which may have biased the results. For example, if participants did not perform any of the behaviours in the questionnaire, but performed others that were not included, they would have been shown not to perform any ALLBs. Although this limitation was overcome in the interviews where participants explicitly discussed their performance of ALLBs, it may have biased the connection between gains and ALLBs intended to be observed in the quantitative analyses. Given the very personal nature of autonomy and the ALLBs, the best way to obtain valuable information in relation to the actual behaviours carried out and their frequency is by means of interviews and/or journal entries.

3. The fourth hypothesis introduced in this study was that the acquisition of formulaic language is associated with working memory capacity. The reading span test used to measure working memory capacity did not discriminate among learners, whose scores were very similar. Although this does not disconfirm the role of working memory capacity in the acquisition of formulaic language, it seems to suggest that the test and/or the methodology for its administration were not appropriate for the purpose outlined. Skehan (2002) states that even though there is evidence that links language learning aptitudes to L2 acquisition, research in the area had been neglected for some time. Recently, new approaches to the study of L2 learning aptitude have been proposed. For example, the view that language encoding and decoding are strongly dependent on formulaic sequences has contributed to a reconsideration of the role of memory in L2 development.

Skehan outlined SLA processing stages with the purpose of identifying the L2 learning ability called for in order to cope with each particular learning stage. In this model, the learning stage concerned with formulaic language acquisition is the lexicalisation stage. He claims that the central issue in this stage is "how the learner is able to go beyond rule-based processing […] and build a lexical system which can be used to underlie real-time performance" (p. 92).

Although the Daneman and Carpenter reading span test has been shown to successfully measure the processing and storing functions ascribed to working memory and even the retrieving function, which Skehan finds especially important, it deals with storing and processing of single words. In my view, a better test to measure the L2 learning abilities involved in formulaic language learning would measure the processing, storing, and retrieving of chunks. To my knowledge, such a measure has not been made available although it seems quite plausible to fathom a connection between these working memory processes and the acquisition of formulaic language.

4. A final but important limitation to this study was the fact that I was the teacher and the researcher, which may have biased the participants' answers on both questionnaires as well as the information provided in the interviews even though the interviews were conducted by a research assistant. However, being the teacher/researcher helped me better interpret the qualitative data, as I was able to observe students throughout the whole treatment, not just during the tests or the questionnaires.

6.4 Pedagogical implications

Given the fact that the experimental design for this study did not include a control group, there is no empirical way of linking the treatment to the significant gains observed in productive and receptive knowledge of the targets. Nevertheless, significant gains were also observed in Schmitt et al. (2004), whose treatment consisted of the same pedagogical intervention as the one for the present study: drawing attention to the targets during class time when they came up as part of the course content. This could suggest that for certain formulaic sequences, highlighting their form, meaning and use is enough to help learners store and eventually retrieve the chunk.

Probably the most pertinent implication of this study for L2 teaching is the importance of encouraging performance of ALLBs. Learners need to be made aware of the importance of the actions they carry out in order to improve their command of the L2 and they also need to be coached in order to better capitalize on them. As evidenced by the description of the 14 participants in the qualitative section, seven out of nine successful learners carried out very particular behaviours with the intention of memorizing new words and expressions. These actions were not imposed by anyone, but reflected what they believed was a good action to perform to fit the learning purposes.

6.5 Future research

Although the quantitative analyses did not reveal the relationships predicted in this study, the qualitative data, confirmed some of its hypotheses. In order to better approach the questions introduced in this investigation, it would be necessary to have a longer study involving more qualitative data sources, such as journals and follow-up

interviews. Future research should consider the relevance of socio-cultural adaptation to the acquisition of formulaic sequences with a special focus on the actual actions L2 learners perform while they are in contact with members of the L2 community. Also, it seems necessary to devise a specific test that measures language learning aptitude in relation to the acquisition of formulaic sequences. This test could be devised along the lines of the theory of SLA processing stages set forth by Skehan (2002).

References

Benson, P. (2001). *Teaching and researching autonomy in language learning.* London: Longman.

Bolander, M.(1989). Prefabs, patterns and rules in interaction? Formulaic speech in adult learners' L2 Swedish. In K. Hyltenstam & L. K. Obler (Eds.) *Bilingualism across the Lifespan*, (pp. 73-86). Cambridge: Cambridge University Press.

Conklin, A. & Schmitt, N. (2007). Formulaic sequences: Are they processed more quickly than nonformulaic language by native and nonnative speakers? *Applied Linguistics,* 28, 1-18.

Danemann, M. & Carpenter, P. (1980). Individual Differences in Working Memory and Reading. *Journal of Verbal Learning and Verbal Behavior*, 19:4, 450-466.

Deci, E., Vallerand, R., Pelletier, L. G., & Ryan, R. (1991). Motivation and education: The Self-Determination perspective. *Educational Psychologist*, 26 (2&3), 325-346.

Dörnyei, Z., Durrow, V., & Zahran, K. (2004). Individual differences and their effect onformulaic sequence acquisition. In N. Schmitt (Ed.), *Formulaic Sequences* (pp.55-86). Philadelphia: John Benjamins.

Dörnyei, Z. & Skehan, P. (2003). Individual differences in L2 learning. In C. Doughty & M. Long (Eds.), *The handbook of second language acquisition* (pp. 589-630).

Fitzpatrick, T., & Wray, A. (2006). Breaking up is not so hard to do: Individual differences in L2 memorization. *The Canadian Modern Language Review* 63 (1), 35-57.

Gardner, R. C. (1985). *Social psychology and second language learning: The role of attitudes and motivation.* London: Edward Arnold.

Irujo, S. (1986). Don't put your leg in your mouth: Transfer in the acquisition of idioms in a second language. *TESOL Quarterly*, 20 (2), pp.287-304.

Littlewood, W. (1996). "Autonomy": An anatomy and a framework. *System*, 24 (4), 427-435.

Myles, F., Mitchell, R. & Hooper, J. (1999). Interrogative chunks in French L2: A basis for creative construction? *Studies in Second Language Acquisition*, 21, 49–80.

Nattinger, J. & DeCarrico, J. (1992). *Lexical Phrases and Language Teaching*. Oxford: Oxford University Press.

Noels. K. (2009). The internalisation of language learning into the self and the social identity. In Z. Dörnyei and E. Ushioda (Eds.) *Motivation, language identity and the L2 self*. (pp. 295-313). Bristol, UK: Multilingual Matters.

Noels, K., Pelletier, L., & Vallerand, R. (2000). Why are you learning a second language? Motivational orientations and Self-Determination Theory. *Language Learning,* 50 (1), 57-85.

Norton, B. & Toohey, K. (2001). Changing perspectives on good language learners. *TESOL Quarterly*, *35*(2), 307-322.

Paré, R. & Petring, J. (2005). *Prospects: English Skills for Academic and ProfessionalPurposes*. Quebec, Canada: Les Éditions CEC.

Pawley, A. & Syder, F. (1983). Two Puzzles for linguistic theory: Nativelike selection and nativelike fluency. In J.C Richards & R. Schmidt (Eds.), *Language and communication* (pp. 191-226). London: Longman.

Pelletier, L. & Vallerand, R. (1993). Une Perspective Humaniste de la Motivation: Les Théories de la competence et de l'autodetermination. In R. Vallerand & E. Thill (Eds.), *Introductin à la Psychologie de la Motivation* (pp. 233-281). Québec, Canada: Édition Études Vivantes.

Schmidt, R. (1983). Interaction, acculturation and the acquisition of communicative competence: A case study of an adult. In N. Wolfson and E. Judd (Eds.), *Sociolinguistics and language acquisition*. Rowley, Mass: Newbury House.

Schmitt, N., & Carter, R. (2004). In N. Schmitt (Ed.), *Formulaic Sequences* (pp.55-86).Philadelphia: John Benjamins.

Schmitt, N., Dörnyei, Z., Adolphs, S., & Durrow, V. (2004). Knowledge and acquisition of formulaic sequences; a longitudinal study. In N. Schmitt (Ed.), *Formulaic Sequences* (pp.55-86). Philadelphia: John Benjamins.Skehan, P. (1998). *A cognitive approach to language learning*. Oxford: Oxford University Press.

Schumann, J. H. (1986). Research on the acculturation model for second language acquisition. *Journal of Multilingual and Multicultural Development,* 7, 379-392.

Skehan, P. (2002). Theorizing and updating aptitude. In P. Robinson (Ed.), *Individual Differences and Instructed Language Learning* (pp. 69-93). Amsterdam: John Benjamins.

Spratt, M., Humphreys, G., & Chan, V. (2002). Autonomy and motivation: Which comes first? *Language Teaching Research*, 6 (3), 245-266.

Vallerand, R. & Thill, E. (1993). Introduction au concept de motivation. In R. Vallerand & E. Thill (Eds), *Introduction à la psychologie de la motivation* (pp. 3-39). Québec, Canada: Édition Études Vivantes.

Weinert, R. (1995). The role of formulaic language in second language acquisition: a review. *Applied Linguistics*, 16, 180–205.

Wenden, A. (1998). Metacognitive knowledge and language learning. *Applied Linguistics* 19 (4), 515-537.

Wiktorsson, M. (2001)**.** Register differences between prefabs in native and EFL English. In *The Department of English in Lund: Working Papers in Linguistics*, ed. by S. Manninen and C. Paradis, 85-94. Department of English, University of Lund.

Wray, A. (2000). Formulaic sequences in second language teaching: Principles and practice. *Applied Linguistics*, 21 (4), 463-489.

Wray, A. (2002). *Formulaic language and the lexicon*. New York: Cambridge University Press.

Yorio, C. (1980). Conventionalized language forms and the development of communicative competence. *TESOL Quarterly*, 14 (4), 433-442.

Yorio, C. (1989). Idiomaticity as an indicator of second language proficiency. In K.Hyltenstam & L. K. Obler (Eds.) *Bilingualism across the Lifespan*, (pp. 55-72).Cambridge: Cambridge University Press.

APPENDICES

APPENDIX A

Information Personnelle

1. Nom: _____
2. Prénom: _____
3. Âge: _____
4. Quelle est ta langue maternelle?

   Français _____ Anglais _____ Autre (spécifie): _____
5. Quelle langue parles-tu à la maison?

   Français _____ Anglais _____ Autre (spécifie): _____
6. Quelles langues parles-tu à part ta langue maternelle? Spécifie

   _____, _____, _____
7. Quelle est la langue maternelle de tes parents? _____
8. Où as-tu fait ton école primaire?

   Au Québec _____ Ailleurs (spécifie): _____
9. Où as-tu fait ton école secondaire?

   Au Québec _____ Ailleurs (spécifie): _____
10. Où as-tu fait le cours 604-100-03 “anglais de base”?

    Au Collège de Rosemont _____ Ailleurs _____
11. Quand est-ce que tu as passé le cours 604-100-03 “anglais de base”?

    La session passée ____ Il y a deux sessions ____ Il y a plus d’un an ____
12. Depuis quand apprends-tu l’anglais? _____
13. Quel contact as-tu eu avec l’anglais jusqu’à maintenant?
    - Camp de jour en anglais _____
    - Anglais intensif à l’école _____
    - Vacances dans des endroits où l’on parle anglais _____
    - Membres de la famille qui sont des anglophones _____
    - Ami(e)s proches qui sont des anglophones _____
    - Clavardage en anglais _____
    - Autres (spécifie):_____

APPENDIX B
Productive measure of lexical phrases

TEST I

Nom:

_____

Instructions

Lis les deux textes ci-dessous et complète les espaces avec les mots appropriés. Sers-toi des initiales, des nombres d'espaces et des traductions entre parenthèses pour obtenir les réponses correctes. Si tu ne connais pas la réponse, laisse l'espace vide tout simplement.

Texte I

H1N1 vaccination campaign: Opinion

Last week provincial health authorities announced that the vaccine to prevent the A H1N1 virus, *Tamiflu*, would be available as of this week and that by the first week of December, everybody should be vaccinated. However, most people did not understand that the vaccine was going to be administered to certain groups first. **1. A___ a re_____ (comme conséquence)**, people from all age groups have arrived at hospitals, CLSC's, and walk in clinics to get the shot.

Not only is this crowding health centers, increasing the chances of spreading the virus, but it is also making health workers very tired since they need to **2. de_____ w___ (composer avec)** many terrified parents, having to answer the same questions over and over again.

H1N1 is a serious thing. We are at the doors of a pandemic that can cause **3. at le_____ (au moins)** one third of the population to be sick. The best way to prevent the virus from spreading, apart from a vaccination, is providing clear and sufficient information. So, **4. in_____ of (au lieu de)** talking about the virus and the shot on TV and radio stations mainly, the government should **5. ma_____ su_____ th_____ (assurer que)** every single home in the country receives a brochure containing

information **6. su_____ a____ (tel que)** prevention measures, vaccination campaigns, contact numbers and Internet addresses for more information.

What about the famous *Tamiflu*? What do we know about it? Is the fact that many of us could get swine flu a good reason to push everybody to be vaccinated? Do we really know the side effects of the shot? **7. I fi_____ it h_____ to (avoir du mal à)** believe that these questions have not been addressed in most discussions on the H1N1 virus. Just knowing that it could help avoid the flu is not **8. go_____ en_____ to (vraiment suffisant)** make us get the shot. What if the virus mutates **9. d_____ to (dû à)** resistance to *Tamiflu,* and turns into a much stronger strain? What if scientists can't come up with new medication against the new strain? Just thinking about these questions is terrifying, especially now that we have reached the highest stage of virus propagation.

Texte II

Radio show

Announcer: If you have any comments on the vaccination campaign, please call our toll free number, 514 522 2222. We have our first caller on the line. Hi!

Caller 1: Hi

Announcer: What's your name and where are you calling us from?

Caller 1: I'm Dan from downtown.

Announcer: Ok, Dan. What's your opinion on the vaccination campaign?

Caller 1: Well, **1. what I d_____ li_____ ab_____ it (Ce que je n'aime pas de ça)** is that you have to go to shopping centers to get the vaccine and these places are

usually crowded, **2. y_____ k_____ (tu sais)**, and that **3. s_____ of (d'une certaine façon)** makes me feel I'm running the risk of getting the virus.

Announcer: Yeah! A lot of people have expressed the same concern **4. o_____ the p_____ (pendant la dernière)** week.

Caller 1: I'm not saying that we'll get swine flu just by going to these vaccination centers, but we **5. a____ m_____ li_____ to (avoir plus de chance de)** get it in closed spaces where we are very near one another.

Announcer: Thank you Dan, and we have another caller. Hi! What's your name?

Caller 2: Hi I'm Eliane.

Announcer: Hi Eliane! Where are you calling us from?

Caller 2: I'm in Pointe Claire.

Announcer: Tell us about your opinion on this vaccination campaign.

Caller 2: Well I **6. u_____ to (avoir l'habitude de)** get the shot against seasonal influenza every year and I felt very comfortable with that. But about five years ago, I had an acupuncture treatment for allergies and asthma and decided not to get the shot for influenza that year. Since then, I have not been ill once. My opinion is more of a question: has there been any research done on alternative treatments, such as acupuncture, that we could get in order to prevent the virus?

Announcer: That's a very good question. If any of our listeners can answer this one, please give us a call, the number is 514 522 2222.

APPENDIX C

The Language Learning Orientations (LLOS) questionnaire

Nom:_____

Questionnaire 1

Partie 1. Ce questionnaire contient plusieurs raisons pour lesquelles on voudrait apprendre l'anglais. Noircie le cercle qui à ton avis correspond le mieux à la raison exprimée. IL N'Y A PAS DE BONNE OU DE MAUVAISE RÉPONSE CAR IL S'AGIT D'OPINIONS PERSONNELLES.

POUR QUOI APPRENDS-TU L'ANGLAIS?

1 Parce que je me sentirais coupable de ne pas pouvoir parler à mes ami(e)s anglophones en anglais.

Ne correspond pas	Correspond très peu	Correspond peu	Correspond modérément	Correspond beaucoup	Correspond presque parfaitement	Correspond parfaitement

2 Honnêtement, je ne sais pas; J'ai réellement l'impression de perdre mon temps en étudiant l'anglais.

Ne correspond pas	Correspond très peu	Correspond peu	Correspond modérément	Correspond beaucoup	Correspond presque parfaitement	Correspond parfaitement

3 Pour le plaisir que je ressens lorsque je parle anglais.

Ne correspond pas	Correspond très peu	Correspond peu	Correspond modérément	Correspond beaucoup	Correspond presque parfaitement	Correspond parfaitement

4 De façon à obtenir un emploi plus prestigieux.

Ne correspond pas	Correspond très peu	Correspond peu	Correspond modérément	Correspond beaucoup	Correspond presque parfaitement	Correspond parfaitement

5 Pour le sentiment satisfaisant que j'ai à découvrir de nouvelles choses.

Ne correspond pas	Correspond très peu	Correspond peu	Correspond modérément	Correspond beaucoup	Correspond presque parfaitement	Correspond parfaitement

6 Parce que je choisi d'être le genre de personne qui peut parler anglais

7 Pour avoir la chance de participer avec facilité à des activités qui incluent plusieurs groupes ethniques.

8 Pour me prouver que je suis un bon citoyen parce que je peux parler l'anglais.

9 Je ne peux pas voir pourquoi j'étudie l'anglais, et, franchement, je m'enfou.

10 Pour le plaisir d'accroître mes connaissances en ce qui a trait à la littérature anglaise.

11 Parce que je veux mieux comprendre la culture anglophone.

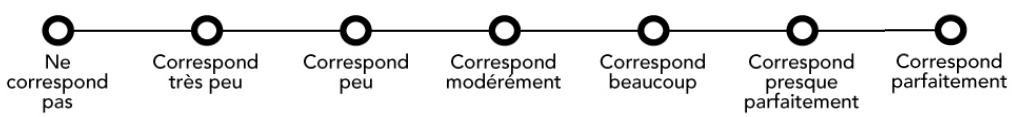
12 Parce que je me sentirais coupable de ne pas connaître l'anglais.

13 Parce que pour moi c'est facile d'apprendre une deuxième langue.

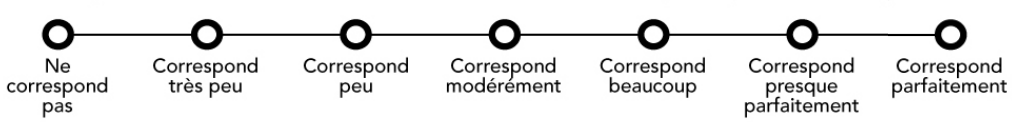
14 De façon à avoir un meilleur salaire plus tard.

15 Parce que je songe à vivre dans un endroit ou l'anglais est la langue officielle.

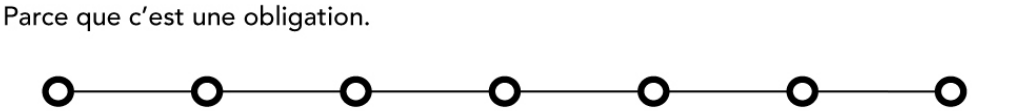
16 Parce que je choisi d'être le genre de personne qui parle plus d'une langue.



17 Pour le plaisir que je ressens lorsque j'entends l'anglais parlé par les anglophones.



18 Parce que c'est une obligation.



19 Pour les avantages que je peux retirer de mon admission dans la communauté anglophone.

20 Pour le plaisir que je ressens lorsque je saisis une construction difficile en anglais.

21 Parce que j'aime le sentiment d'apprendre de nouvelles choses en ce qui trait à la communauté anglophone et à son mode de vie.

22 Pour la satisfaction que je ressens lorsque je suis dans le processus d'accomplir des exercices difficiles en anglais.

23 Parce que je pense que c'est bon pour mon développement personnel.

24 Parce que mes parents veulent que je devienne bilingue.

25 Pour le plaisir que je ressens lorsque je me surpasse dans mon étude de l'anglais.

26 Pour le grand sentiment de plaisir ressenti lorsque j'entends une langue étrangère.

Partie 2. Noircie le cercle qui à ton avis correspond le mieux à l'idée exprimée dans chaque énoncé. IL N'Y A PAS DE BONNE OU DE MAUVAISE RÉPONSE CAR IL S'AGIT D'OPINIONS PERSONNELLES.

27 Pour mon niveau, je lis très bien en anglais.

28 Pour mon niveau, je comprends très bien l'anglais.

29 Pour mon niveau, j'écris très bien en anglais.

30 Pour mon niveau, je parle très bien l'anglais.

31 J'ai beaucoup de confiance dans mes habiletés pour apprendre l'anglais.

32 J'aimerais bien continuer à prendre des cours d'anglais même si ce n'est pas nécessaire pour obtenir mon DEC.

33 J'ai l'intention de continuer à apprendre l'anglais par moi même en révisant les textes et les activités vus en classe ou en prenant des cours ailleurs.

34 Je me sens généralement tendu(e) ou mal à l'aise toutes les fois que je parle anglais dans mes cours d'anglais ou ailleurs.

35 J'évite de parler en anglais dans mes cours d'anglais ou ailleurs.

36 Je peux prendre mes propres décisions dans mon apprentissage de l'anglais.

APPENDIX D

Autonomous Language Learning Behaviours (ALLB) questionnaire

Nom:_____

Questionnaire 2

Instructions: Remplis le cercle correspondant à ton niveau d'accord avec chaque énoncé.

Partie 1. Dans mon apprentissage de l'anglais,

1. Je recherche les occasions de parler anglais (au téléphone, je sélectionne l'option «anglais»; je fréquente des quartiers, des boutiques, des restaurants où l'on parle anglais; j'assiste à des événements anglophones)

   Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

2. J'essaie d'utiliser de nouveaux mots ou de nouvelles expressions dans mes conversations en anglais.

   Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

3. Souvent, je visite des sites Internet en anglais (je lis des articles en anglais, j'utilise Google en anglais, etc.).

   Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

4. Souvent, Je demande aux anglophones de me dire quand je fais des erreurs en anglais.

   Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

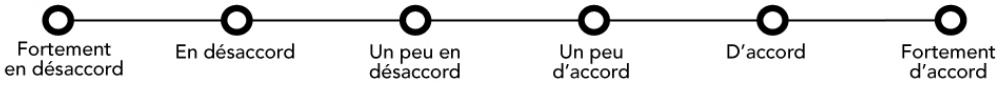
5. J'imite ou répète dans ma tête ou à voix haute certains mots ou certaines expressions que les anglophones utilisent.

   Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

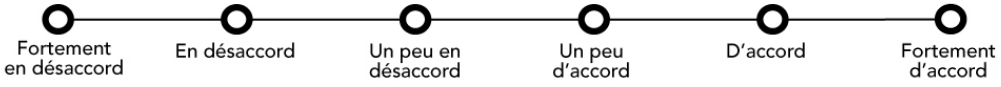
6. J'écoute des anglophones parler afin d'apprendre de nouveaux mots et de nouvelles expressions.

   Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

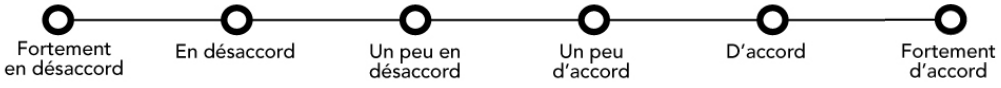
7 Souvent, je cherche à apprendre de nouveaux mots ou de nouvelles expressions en anglais.



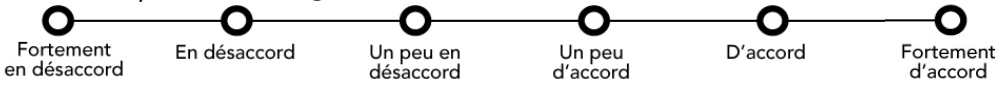
8 Souvent, je demande aux anglophones de répéter ou d'expliquer les mots et expressions qu'ils utilisent afin de mieux les comprendre.



9 J'évalue mes connaissances de l'anglais afin de trouver les aspects qui réquièrent des améliorations.



10 Souvent, je remarque un nouveau mot, une nouvelle façon d'utiliser un verbe ou une nouvelle expression en anglais.



11 Souvent, je réécoute des parties de film ou de matériel audio afin de mieux comprendre les expressions ou les mots utilisés.

12 J'essaie de mémoriser de nouveaux mots ou nouvelles expressions que les anlophones utilisent.

13 Je demande aux anglophones de me parler en anglais de la même façon qu'ils parlent avec d'autres anglophones.

14 Souvent, je demande aux gens qui parlent bien l'anglais (des professeurs, des assistants, des amis, des collègues de travail) de me donner leur opinion sur la qualité de mon anglais.

Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

15 J'essaie de parler anglais avec des anglophones, même lorsqu'ils sont capables de bien s'exprimer en français.

Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

16 Souvent, Je visite des clavardages, des forums et des blogues ou je peux socialiser en anglais.

Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

17 Quand je rencontre des anglophones ou des allophones, j'essaie de leur parler en anglais le plus possible.

Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

Partie 2. Par rapport à mon cours d'anglais,

18 Je participe activement dans mes cours d'anglais, et ce, même lorsque c'est difficile.

Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

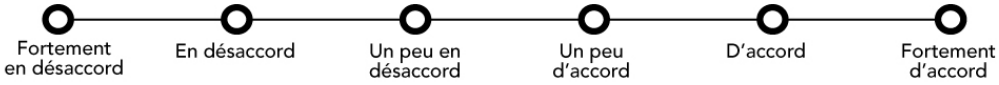
19 Souvent, je relis les textes vues en classe ou donnés comme devoirs afin d'améliorer mes connaissances en anglais.

Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

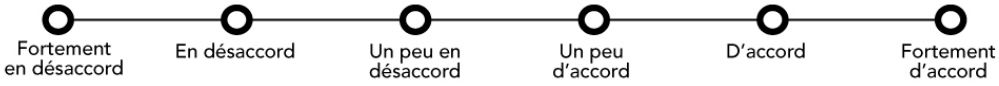
20 Quand j'ai de la difficulté à comprendre quelque chose en anglais (soit la correction des examens, des exercices, des devoirs, etc.) je demande des explications à mon professeur ou à l'assistant.

Fortement en désaccord | En désaccord | Un peu en désaccord | Un peu d'accord | D'accord | Fortement d'accord

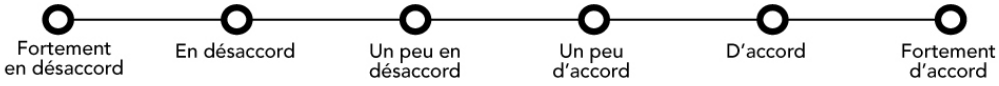
21 Souvent, je réécoute le matériel audio joué en classe ou donnés comme devoirs afin d'améliorer mes connaissances en anglais.



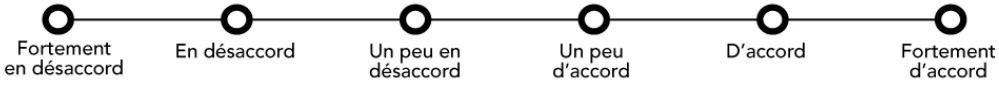
22 Je consacre toujours plus de temps à mon cours d'anglais. Je ne me limite pas aux travaux assignés par le professeur.



23 Souvent dans mes cours d'anglais, je porte attention à la façon dont mon professeur (ou les moniteurs) utilisent des mots ou des expressions. Par la suite, je vérifie ces mots ou ces expressions (sur internet ou dans un dictionnaire) afin de savoir comment bien les utiliser.



24 Souvent, je réfléchis à ce que j'ai appris dans mes cours d'anglais



APPENDIX E
Receptive measure of lexical phrases

TEST 2

Nom: _____

Instructions
Lis les deux textes ci-dessous et encercle LA MEILLEURE PHRASE pour chaque espace. Si tu ne connais pas la réponse, ne devine pas et marque « I DON'T KNOW » tout simplement.

Texte 1 H1N1 vaccination campaign: Opinion

Last week provincial health authorities announced that the vaccine to prevent the A H1N1 virus, Tamiflu, would be available as of this week and that by the first week of December, everybody should be vaccinated. However, most people did not understand that the vaccine was going to be administered to certain groups first. **1.** _____ , people from all age groups have arrived at hospitals, CLSC's, and walk in clinics to get the shot.
Not only is this crowding health centers, increasing the chances of spreading the virus, but it is also making health workers very tired since they need to **2.** _____ many terrified parents, having to answer the same questions over and over again.
H1N1 is a serious thing. We are at the doors of a pandemic that can cause **3.** _____one third of the population to be sick. The best way to prevent the virus from spreading, apart from a vaccination, is providing clear and sufficient information. So, **4.** _____ talking about the virus and the shot on TV and radio stations mainly, the government should **5.** _____ every single home in the country receives a brochure containing information **6.** _____ prevention measures, vaccination campaigns, contact numbers, and Internet addresses for more information.
What about the famous Tamiflu? What do we know about it? Is the fact that many of us could get swine flu a good reason to push everybody to be vaccinated? Do we really know the side effects of the shot? **7.** _____ believe that these questions have not been addressed in most discussions on the H1N1 virus. Just knowing that it could help avoid the flu is not **8.** _____ make us get the shot. What if the virus mutates **9.** _____ resistance to Tamiflu, and turns into a much stronger strain? What if scientists can't come up with new medication against the new strain? Just thinking about these questions is terrifying, especially now that we have reached the highest stage of virus propagation.

1
a. As a result
b. As a consequence
c. The result of that is
d. The effect of that is
e. I DON'T KNOW

2
a. communicate with
b. discuss with
c. deal with
d. negotiate with
e. I DON'T KNOW

3
a. in the minimum case
b. at least
c. in conservative terms
d. in low numbers
e. I DON'T KNOW

4
a. instead of
b. in place of
c. as an alternative to
d. as a replacement to
e. I DON'T KNOW

5
a. provide certainty that
b. make sure that
c. assure that
d. verify that
e. I DON'T KNOW

6
a. equal to
b. identical to
c. such as
d. as examples
e. I DON'T KNOW

7
a. I find an obstacle to
b. I see a difficulty to
c. I see a problem to
d. I find it hard to
e. I DON'T KNOW

8
a. good enough to
b. positive enough to
c. an acceptable motive to
d. a possible argument to
e. I DON'T KNOW

9
a. due to
b. as consequence of
c. following in
d. developing from
e. I DON'T KNOW

Texte II. Radio show

Announcer: If you have any comments on the vaccination campaign, please call our toll free number, 514 522 2222. We have our first caller on the line. Hi!

Caller 1: Hi!

Announcer: What's your name and where are you calling us from?

Caller 1: I'm Dan from downtown.

Announcer: Ok, Dan. What's your opinion on the vaccination campaign?

Caller 1: Well, **1** _____ is that you have to go to shopping centers to get the vaccine and these places are usually crowded, **2** _____, and that **3** _____ makes me feel I'm running the risk of getting the virus.

Announcer: Yeah! A lot of people have expressed the same concern **4** _____ week.

Caller 1: I'm not saying that we'll get swine flu just by going to these vaccination centers, but we **5** _____ get it in closed spaces where we are very near one another.

Announcer: Thank you Dan, and we have another caller. Hi! What's your name?

Caller 2: I'm Eliane.

Announcer: Hi Eliane! Where are you calling us from?

Caller 2: I'm in Pointe Claire.

Announcer: Tell us about your opinion on this vaccination campaign.

Caller 2: Well I **6** _____ get the shot against seasonal influenza every year and I felt very comfortable with that. But about five years ago, I had an acupuncture treatment for allergies and asthma and decided not to get the shot for influenza that year. Since then, I have not been ill once. My opinion is more of a question: has there been any research done on alternative treatments, such as acupuncture, that we could get in order to prevent the virus?

Announcer: That's a very good question. If any of our listeners can answer this one, please give us a call, the number is 514 522 2222.

1
a. what is dislikeable about it
b. What I don't like about it
c. what is not to like about it
d. what I don't value about it
e. I DON'T KNOW

2
a. you see
b. you understand
c. you know
d. you get
e. I DON'T KNOW

3
a. in a manner
b. type of
c. in a style
d. sort of
e. I DON'T KNOW

4
a. over the past
b. in the ending
c. along the last
d. for the next
e. I DON'T KNOW

5
a. are in the hazard to
b. are in the risk to
c. are more likely to
d. are in danger to
e. I DON'T KNOW

6
a. had the habit to
b. habitually would
c. used to
d. had the custom to
e. I DON'T KNOW

APPENDIX F

Individual Interview: Questions

1. Comment te sens-tu par rapport à l'anglais en général?
2. Te sens-tu mal à l'aise d'être dans un environnement anglophone?
3. Quel contact a-tu eu avec l'anglais jusqu'à maintenant? (travail, camps de jour, vacances, membres de la famille qui sont des anglophones, amis, chat, anglais intensif, etc.)
4. Quelle a été ton expérience avec l'anglais à l'école primaire?
5. Quelle a été ton expérience avec l'anglais à l'école secondaire?
6. Quelle a été ton expérience avec l'anglais au collégiale?
7. Te sens-tu motivé à apprendre l'anglais?
8. Que est-ce qui te motive à apprendre l'anglais?
9. Aimes-tu le parler?
10. Aimes-tu le lire?
11. Aimes-tu l'écouter?
12. Aimes-tu l'écrire?
13. Combien de fois as-tu visité les tuteurs cette session?
14. Quelles actions fais-tu avec la seule intention d'améliorer ton anglais? (tv, internet, parler en anglais avec des amis et connaissances qui parlent anglais, prendre des notes, etc.)
15. Que est-ce que tu fais afin de mémoriser des mots et/ou des expressions en anglais?
16. Sens-tu que tu es capable de t'améliorer en anglais par toi-même?

17. D’après toi et ton expérience, comment devrait-on faire pour apprendre une deuxième langue?
18. Comment faire pour apprendre des nouveaux mots et/ou expressions en anglais?
19. Te sens-tu doué pour apprendre des langues?
20. Penses-tu que tu es plus rapide que beaucoup d’autres pour apprendre l’anglais?
21. Aimerais-tu continuer à étudier l’anglais après ton dernier cours au collège?

APPENDIX G

Reading Span Test

French translations from the original sentences in Danemann and Carpenter (1980)

1. Étant donné ses bavures répétées, son contrat comme directeur de la compagnie a été terminé.
2. Il est possible, bien sûr, que la vie ne soit pas apparue premièrement sur la terre.
3. Après tout, il n'était pas allé loin car il avait marché en cercles.
4. La pauvre femme savait bien qu'elle ne survivrait pas après avoir eu cette vision.
5. La famille de Jeanne avait décidé que son ami n'était pas quelqu'un de bonne condition sociale.
6. Sans aucune hésitation, il a plongé dans l'exercice de mathématiques le plus difficile aveuglément.
7. Tout le village est arrivé pour assister au passage du plus controversé des candidats.
8. Après avoir passé tous les examens, la classe a fêté pendant une semaine sans arrêt.
9. Selon les résultats du sondage, Robert Redford est le plus aimé parmi les stars.
10. Le climat étant si imprévisible cet été, personne n'a pu faire de plans en avance.
11. Les effets dévastateurs des inondations ont été bien évalués des mois plus tard.
12. Dans un moment de pure spontanéité, elle a développé une thèse pour son article.
13. À la fin de la performance des musiciens, le public enthousiaste a applaudi.
14. Ils allaient souvent au théâtre et au cinéma, sauf dans des circonstances hors de leur contrôle.
15. Les bûcherons travaillaient de longues heures afin d'obtenir la quantité nécessaire de bois.
16. La vieille femme ne parlait à ses voisins que sur le chemin de retour de l'église.
17. Il y a des jours quand la ville où j'habite se réveille avec un drôle d'air.
18. Nous les gars on voulait juste les avertir, on ne voulait pas se bagarrer.
19. Avec beaucoup de surprise et de fascination, Marion a pendant longtemps regardé les photos.
20. Ce qui viendra après aujourd'hui sera complètement différent car il s'agira de la vraie vie.
21. Il se tenait debout là, et pendant que tout le monde chantait, il avait l'air amer.
22. Jean était fâché parce que Karen rongeait ses ongles et mâchait de la gomme.
23. L'évidence indiquait qu'il y a eu un complot pour l'éliminer et faire un martyr de lui.
24. Afin de déterminer les effets du médicament, l'hôpital a gardé tous les patients.
25. Sa mère lui reprochait sans cesse son manque d'intérêt pour le bien être des enfants.
26. J'ai trouvé le conférencier principal incroyablement ennuyant, peu articulé et maladroit dans ses explications.
27. Afin de remettre le voyage à plus tard, il a annulé son agenda pour la semaine.
28. L'enfant incorrigible a été brutalement puni pour son manque de respect envers les aînés.
29. Le brillant avocat défenseur a surpris le jury avec ses connaissances de la cause.

30. J’imagine bien que tu te doutes fortement de la raison de ma visite.
31. J’ai révisé mes souvenirs mentalement comme s’ils étaient des photos dans un album.
32. Je ne suis pas certain de ce qui a mal été mis à part son tempérament.
33. Rempli de mauvais souvenirs et d’une peur incontrôlable, j’ai lentement ouvert la porte.
34. Des fois c’est très épuisant de le convaincre que je l’aime et l’aimerai toujours.
35. Quand les enfants se sentent troublés, ils attendent une intervention miraculeuse d’un super héros.
36. C’était ta foie dans l’importance de ma souffrance qui m’a aidé à passer au travers.
37. La fille a hésité avant de manger les oignons car son mari en déteste l’odeur.
38. Les fumeurs se sont fait demandé d’arrêter leur habitude jusqu’à la fin de la production.
39. Le jeune cadre était décidé à développer ses gros projets immobiliers pendant l’année.
40. Malgré le froid et le manque de nourriture, les jeunes campeurs ont continué leur long voyage.
41. Tous les étudiants qui ont passé l’examen ont été libérés pour le reste de la session.
42. Toute l’équipe de construction a décidé d’allonger leur journée de travail pour avoir leur dîner.
43. Malgré ses toutes premières œuvres, le jeune musicien avait développé son propre style.
44. Le bruit de rire des enfants était très dérangeant pour les aînés du bâtiment.
45. Le son du train qui s’approchait l’a réveillé et il s’est vite levé.
46. Une petite lampe brûlait sur le plancher et deux hommes étaient agenouillés dos à moi.
47. Les nouveaux appareils électroniques numériques auront un rôle très important dans ton futur.
48. Un des problèmes avec ses explications est qu’il n’a aucune défense contre le plagiat.
49. Parfois, le bouc émissaire est un étranger qui a été accueilli dans la communauté.
50. Je ne pourrais pas faire comprendre à personne à quel point c’était excitant.
51. Dans un moment d’hallucination, il a vu un gros indien assis à côté du feu.
52. Le lieutenant s’est assis à côté de ses camarades en fixant la boue par terre.
53. Je ne choquerai pas mes lecteurs avec la description de la boucherie qui a suivi.
54. Les cours ont été conçus autant pour des ingénieurs que pour des amateurs enthousiastes.
55. Le taxi a pris l’Avenue Michigan, d’où ils ont eu une claire vue du lac.
56. Les mots d’amour humains ont été utilisés par les saints pour décrire leur vision de Dieu.
57. C’était après cet évènement qu’une urgence pour les affaires m’a attiré dans cette petite ville.
58. Il a continué son sujet, en faisant semblant qu’il cherchait de l’information pour calmer ses inquiétudes.

59. J'étais si surprise de cette vision inexplicable que j'ai perdu la parole pour un instant.
60. Quand ses yeux se sont ouverts à nouveau, il n'y avait pas de trace de furie.
61. Il s'est penché sur le parapet du pont et les deux policiers le regardaient à distance.
62. Ses splendides yeux mélancoliques se sont tournés vers moi avec un dur regard.
63. Il avait déjà pensé au suicide mais l'idée était trop oppressive pour la garder en tête.
64. Et maintenant que l'homme était mort, un tout nouveau scénario devait se présenter.
65. En arrivant au champ de tabac, je me suis aperçue qu'il n'avait pas souffert autant.
66. Ici comme ailleurs, des modèles empiriques sont importants et abondamment documentés.
67. Les intervalles de silence sont devenus progressivement plus longs et les délais affolants.
68. Deux ou trois gros morceaux de bois brûlaient dans le foyer car la nuit était froide.
69. J'imagine qu'il a pensé à beaucoup de choses pendant que la secrétaire était avec nous.
70. Le déjeuner n'était qu'une heure plus tard et la maison était silencieuse et calme.
71. Cette nouvelle allait résonner dans le monde entier, même dans les terres les plus éloignées.
72. Faire cela en accord avec le pouvoir d'adaptation des êtres humains serait un bon objectif.
73. En le tranchant soigneusement avec son couteau, il l'a plié sans défaire sa face.
74. Il a ri avec sarcasme et il m'a regardé comme s'il allait m'empoisonner pour mes erreurs.
75. Il a toléré une autre intrusion et il se croyait un exemple de patience pour ça.
76. Le lecteur peut assumer que j'avais d'autres raisons à part le désire d'échapper à la loi.
77. Il a écouté attentivement car il avait l'étrange sensation qu'il reconnaissait les voix.
78. La caractéristique principale des héros dans toutes les histoires précédentes est leur sensibilité.
79. Son imagination l'avait tellement absorbé qu'on l'avait appelé deux fois avant qu'il ne réponde.
80. Il avait un crâne bizarre qui s'assoyait sur ses épaules comme une poire dans une assiette.
81. Il a rentré sa chemise dans ses pantalons et a serré les broches de façon sécuritaire.
82. Sur le bureau où elle écrivait souvent, il y avait une pile d'objets couverts de poussière.
83. Elle la contrôlait quand elle était une écolière et la dérangeait quand elle était une étudiante.
84. La forte pluie et le vent furieux n'arrêtaient pas de frapper les vitres.

85. Il a couvert son cœur avec ses mains pour les empêcher d'entendre le bruit qu'il faisait.
86. Toutes les histoires avaient des protagonistes qui essayaient de s'éloigner de la société.
87. Sans tension, il ne pourrait y avoir d'équilibre ni dans la nature ni dans le design.
88. J'aimerais bien qu'il y ait quelqu'un à qui dire que je suis très désolé.

APPENDIX H**:**

Change in mastery of the targets from pretest to posttest

Successful participants (pseudonyms)

1. Carla

	Pretest	Posttest	Description
1.	Receptive	Productive	Enhancement of Knowledge
2.	Productive	Productive	Durable Productive Knowledge
3.	Receptive	Receptive	Stable Receptive Knowledge
4.	Productive	Productive	Durable Productive Knowledge
5.	Productive	Productive	Durable Productive Knowledge
6.	Receptive	Productive	Enhancement of Knowledge
7.	Receptive	Productive	Enhancement of Knowledge
8.	Unknown	Productive	Learning to Productive State
9.	Unknown	Receptive	Learning to Receptive State
10.	Productive	Productive	Durable Productive Knowledge

2. Anne

	Pretest	Posttest	Description
1.	Productive	Productive	Durable Productive Knowledge
2.	Productive	Productive	Durable Productive Knowledge
3.	Productive	Productive	Durable Productive Knowledge
4.	Receptive	Productive	Enhancement of Knowledge
5.	Productive	Productive	Durable Productive Knowledge
6.	Productive	Productive	Durable Productive Knowledge
7.	Receptive	Productive	Enhancement of Knowledge
8.	Unknown	Receptive	Learning to Receptive State
9.	Unknown	Receptive	Learning to Receptive State
10.	Unknown	Unknown	No learning NL

3. Adèle

	Pretest	Posttest	Description
1.	Unknown	Receptive	Learning to Receptive State
2.	Productive	Receptive	Attrition
3.	Unknown	Receptive	Learning to Receptive State
4.	Unknown	Receptive	Learning to Receptive State
5.	Receptive	Productive	Enhancement of Knowledge
6.	Unknown	Unknown	No Learning NL
7.	Unknown	Unknown	No learning NL
8.	Unknown	Unknown	No learning NL
9.	Unknown	Receptive	Learning to Receptive State
10.	Unknown	Productive	Learning to Productive State

4.Dominic

	Pretest	Posttest	Description
1.	Receptive	Productive	Enhancement of Knowledge
2.	Receptive	Productive	Enhancement of Knowledge
3.	Unknown	Receptive	Learning to Receptive State
4.	Unknown	Receptive	Learning to Receptive State
5.	Productive	Receptive	Attrition
6.	Receptive	Receptive	Stable Receptive Knowledge
7.	Receptive	Productive	Enhancement of Knowledge
8.	Unknown	Receptive	Learning to Receptive State
9.	Unknown	Receptive	Learning to Receptive State
10.	Unknown	Receptive	Learning to Receptive State

5. David

	Pretest	Posttest	Description
1.	Unknown	Unknown	No learning NL
2.	Receptive	Productive	Enhancement of Knowledge
3.	Unknown	Productive	Learning to Productive State
4.	Productive	Productive	Durable Productive Knowledge
5.	Receptive	Productive	Enhancement of Knowledge
6.	Unknown	Productive	Learning to Productive State
7.	Unknown	Receptive	Learning to Receptive State
8.	Receptive	Receptive	Stable Receptive Knowledge
9.	Unknown	Unknown	No learning NL
10.	Productive	Productive	Durable Productive Knowledge

6. Keira

	Pretest	Posttest	Description
1.	Unknown	Receptive	Learning to Receptive State
2.	Receptive	Productive	Enhancement of Knowledge
3.	Receptive	Productive	Enhancement of Knowledge
4.	Receptive	Productive	Enhancement of Knowledge
5.	Productive	Productive	Durable Productive Knowledge
6.	Receptive	Receptive	Stable Receptive Knowledge
7.	Receptive	Productive	Enhancement of Knowledge
8.	Receptive	Unknown	Attrition
9.	Unknown	Receptive	Learning to Receptive State
10.	Unknown	Unknown	No learning NL

7. Flavie

	Pretest	Posttest	Description
1.	Unknown	Receptive	Learning to Receptive State
2.	Receptive	Productive	Enhancement of Knowledge
3.	Productive	Productive	Durable Productive Knowledge
4.	Receptive	Receptive	Stable Receptive Knowledge
5.	Unknown	Productive	Learning to Productive State
6.	Receptive	Receptive	Stable Receptive Knowledge
7.	Receptive	Receptive	Stable Receptive Knowledge
8.	Unknown	Receptive	Learning to Receptive State
9.	Unknown	Receptive	Learning to Receptive State
10.	Productive	Productive	Durable Productive Knowledge

8. Karine

	Pretest	Posttest	Description
1.	Receptive	Productive	Enhancement of Knowledge
2.	Receptive	Productive	Enhancement of Knowledge
3.	Productive	Productive	Durable Productive Knowledge
4.	Productive	Productive	Durable Productive Knowledge
5.	Unknown	Receptive	Learning to Receptive State
6.	Productive	Productive	Durable Productive Knowledge
7.	Unknown	Receptive	Learning to Receptive State
8.	Unknown	Unknown	No Learning NL
9.	Unknown	Receptive	Learning to Receptive State
10.	Unknown	Receptive	Learning to Receptive State

9. Jennifer

	Pretest	Posttest	Description
1.	Unknown	Receptive	Learning to Receptive State
2.	Receptive	Receptive	Stable Receptive Knowledge
3.	Unknown	Receptive	Learning to Receptive State
4.	Receptive	Productive	Enhancement of Knowledge
5.	Unknown	Productive	Learning to Productive State
6.	Receptive	Receptive	Stable Receptive Knowledge
7.	Productive	Productive	Durable Productive Knowledge
8.	Unknown	Unknown	No Learning NL
9.	Unknown	Receptive	Learning to Receptive State
10.	Productive	Productive	Durable Productive Knowledge

Non-successful participants (pseudonyms)

1. Aurore

	Pretest	Posttest	Description
1.	Unknown	Receptive	Learning to Receptive State
2.	Unknown	Receptive	Learning to Receptive State
3.	Unknown	Unknown	No Learning NL
4.	Unknown	Unknown	No Learning NL
5.	Unknown	Receptive	Learning to Receptive State
6.	Unknown	Unknown	No Learning NL
7.	Unknown	Receptive	Learning to Receptive State
8.	Unknown	Unknown	No Learning NL
9.	Unknown	Receptive	Learning to Receptive State
10.	Productive	Receptive	Attrition

2. Millie

	Pretest	Posttest	Description
1.	Receptive	Receptive	Stable Receptive Knowledge
2.	Productive	Productive	Durable Productive Knowledge
3.	Productive	Productive	Durable Productive Knowledge
4.	Productive	Productive	Durable Productive Knowledge
5.	Productive	Productive	Durable Productive Knowledge
6.	Receptive	Productive	Enhancement of Knowledge
7.	Receptive	Unknown	Attrition
8.	Productive	Productive	Durable Productive Knowledge
9.	Unknown	Unknown	No learning NL
10.	Productive	Productive	Durable Productive Knowledge

3. Cynthia

	Pretest	Posttest	Description
1.	Unknown	Unknown	No Learning
2.	Unknown	Unknown	No Learning
3.	Receptive	Unknown	Attrition
4.	Receptive	Receptive	Stable Receptive Knowledge
5.	Receptive	Unknown	Attrition
6.	Unknown	Unknown	No learning NL
7.	Unknown	Unknown	No learning NL
8.	Unknown	Unknown	No learning NL
9.	Unknown	Unknown	No learning NL
10.	Unknown	Unknown	No learning NL

4. Mark

	Pretest	Posttest	Description
1.	Receptive	Unknown	Attrition
2.	Productive	Unknown	Attrition
3.	Unknown	Unknown	No Learning NL
4.	Productive	Productive	Durable Productive Knowledge
5.	Receptive	Unknown	Attrition
6.	Unknown	Receptive	Learning to Receptive State
7.	Unknown	Unknown	No Learning NL
8.	Unknown	Unknown	No Learning NL
9.	Unknown	Unknown	No learning NL
10.	Unknown	Productive	Learning to Productive State

5. Claudette

	Pretest	Posttest	Description
1.	Productive	Receptive	Attrition
2.	Unknown	Unknown	No learning NL
3.	Productive	Receptive	Attrition
4.	Productive	Receptive	Attrition
5.	Productive	Productive	Durable Productive Knowledge
6.	Receptive	Productive	Enhancement of Knowledge.
7.	Unknown	Receptive	Learning to Receptive State
8.	Unknown	Unknown	No learning NL
9.	Unknown	Unknown	No learning NL
10.	Productive	Productive	Durable Productive Knowledge