

MEASURING ACADEMIC VOCABULARY SIZE AND DEPTH
IN THE WRITING CLASSROOM:
DOES IT REALLY MATTER?

by

Shanthi Nadarajan

Copyright © Shanthi Nadarajan 2007

A Dissertation Submitted to the Faculty of the

Interdisciplinary Ph.D. Program in
Second Language Acquisition and Teaching

In Partial Fulfillment of the Requirements
For the Degree of

Doctor of Philosophy

In the Graduate College

THE UNIVERSITY OF ARIZONA

2007

THE UNIVERSITY OF ARIZONA
GRADUATE COLLEGE

As members of the Dissertation Committee, we certify that we have read the dissertation prepared by Shanthi Nadarajan

entitled : Measuring Academic Vocabulary Size and Depth in the Writing Classroom:

Does it Really Matter?

and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy

_____ Date: 11.29.2007
Dr. Douglas Adamson

_____ Date: 11.29.2007
Dr. Robert Ariew

_____ Date: 11.29.2007
Dr. Linda Waugh

_____ Date:

_____ Date:

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

_____ Date: 11.29.2007
Dissertation Director: Dr. Douglas Adamson

STATEMENT BY AUTHOR

This dissertation has been submitted in partial fulfillment of requirements for an advanced degree at the University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this dissertation are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the copyright holder.

SIGNED: Shanthi Nadarajan

ACKNOWLEDGEMENTS

As I put the finishing touches to this dissertation, there are a number of great individuals who I would like to thank.

To the director of my dissertation committee Professor Douglas Adamson who influenced me greatly throughout the writing process. Dr. Adamson has more than anyone else given me space and the opportunity to work on an area that has meant so much to me for more than a decade. He has been a great advisor, a source of continuous inspiration and great wisdom for which I remain grateful. Thank you for challenging me in the right directions.

To Dr. Linda Waugh for having encouraged me to join the SLAT program. For being a storehouse of knowledge that she is and for opening up all the paths to research associated with words and concepts. Dr. Ariew, for the humanistic angle. For making me realize that there is more to life than writing the dissertation. Thank you for those invigorating discussions and technical help. To Dr. Penfield for being there. Also for checking up on my progress. I know that you cared.

There are a number of individuals from outside the field who I must acknowledge as well. To Dr. Therese De Vet from the Anthropology department who encouraged me to reach for the sky. I did not get to Mars but brushed with some real stars. Thank you for listening and for making me believe that good research emerges out of real concerns for the common man's life. To Dr. Spike Peterson, for all that enthusiasm, for encouraging me to think outside the box and for making me acknowledge the differences in my field. Also for reminding me that it is not wrong to go against the mainstream if it is for a common good. To Dr. Carol Bender from the Life Sciences and the Fulbright Chapter for putting a human face to the entire experience. For making me realize that my research mattered to the great tree of knowledge. To the legends (past and present) who opened up the world of word learning, a big *namasté* (I salute to you) and "*terima kasih*" (thank you). Thanks to your contributions, you have provided an opportunity for learners like me to speak out on what matters.

Moving on to non academic interactions, to Dr. Margaret Maney, my family away from home. You were there for me during my first and second degree. Though retired and living in Florida, you are still there for me at this stage. It's teachers like you who change a student's lives forever. I dedicate this work to you. To Cat Clinton my friend and confidante who edited and reedited my endless drafts. You were there to pick me up from the airport, you were there for the numerous walks in the parks. True friends like you are one in a million. To the Heindereichs, Filomena Brookes, Ken and Priss, for all the memorable occasions and family get together. My cup runneth over.

Thesis writing is also an excuse to acknowledge everyone that one does not find a chance to acknowledge otherwise. To Torabi, Mark Bryant, Hale and the library staffs, a special thanks. To my three sons, who grew up without their mother for four years, I can only hope to make up for the lost time. To Spike, Kara, Kathryn and Mary, with whom I have shared my countless exasperations and probably laughed a million laughs, thanks for the happy hours and for being there. Last but not least, to my partner in life who took care of three boys while I chased a dream. Thank you for being there for me, during the good times and the bad times. I could not have made it without you.

Table of Contents

LIST OF TABLES	11
ABSTRACT.....	13
CHAPTER 1.....	15
INTRODUCTION.....	15
Introduction.....	15
Statement of Problem	17
Explicit Vocabulary Instruction.....	18
Quantitative and Qualitative Research.....	19
Sociolinguistic Issues.....	21
Background to the Study.....	22
Complexity of Vocabulary Learning	23
The Role of Context in Vocabulary Acquisition	24
Guessing and Inferencing	25
The Task, The Word and The Learner.....	25
Interaction and Instruction	27
Feedback and Instructional Practices.....	27
Communicative Conditions	28
Context for Learning.....	29
Collaborative Learning Environment	30
The Nature of Discrete Item Tests.....	31
Completion Tasks	32
In-depth Vocabulary Measures.....	33
Discrete Item Measures and SLA	34
The Relevance of the Study.....	35
The Purpose of the Study	36
Investigating Form Focused Instruction	38
Assessing Changes in Vocabulary Size and Depth.....	38
Objectives of the Study	39
Significance of the Study	40
Hypotheses of the Study	43
Research Questions.....	44
Assumptions and Definitions	45
Outline of Dissertation.....	47
CHAPTER TWO	49
REVIEW OF RELATED LITERATURE.....	49
Vocabulary Knowledge	49
Discrete Measures of Vocabulary Knowledge	51
Vocabulary Testing and SLA Research.....	53
Relevance of Vocabulary Research to SLA Theory	54

<i>Discussion</i>	56
Vocabulary Acquisition	57
Word and Rule Recognition.....	57
Declarative and Procedural Memory System	58
The Adult L2 Learner’s Dilemma.....	59
Short Term Memory and Long Term Memory	60
<i>Discussion</i>	61
Internal Factors: Attention and Awareness	62
Attention and Fluency.....	63
Input Processing.....	64
Empirical Evidence for Assessing Internal Factors	65
<i>Discussion</i>	65
Instructional Input	66
Modified Input	67
Empirical Evidence for Modified Input and Pushed Output	68
Feedback, Recast and Output.....	69
<i>Discussion</i>	70
Form Focused Instruction (FFI)	70
Focus on Form (fonf)	71
Focus on Forms (fonfs).....	72
Empirical Evidence for Fonfs	73
Processing Instruction (PI).....	74
<i>Discussion</i>	75
Summary	76
Explicit Vocabulary Instruction	78
Vocabulary Through Context	79
Guessing Through Context	80
Guessing and Retention	81
Learning Words Through Reading	82
Increasing Word and Depth Awareness.....	83
Implicit and Explicit Vocabulary Instruction	84
Form Focused Instruction (FFI).....	86
Academic Vocabulary – The Way Forward	87
Content of Academic Vocabulary.....	89
Context of Academic Vocabulary.....	90
Context of Word Use	91
Context and Interaction.....	92
Test Designs	93
Assessing Lexical Density	96
Assessing Validity	97
<i>Discussion</i>	98
Concluding Summary	99

CHAPTER THREE	101
RESEARCH DESIGN AND METHODOLOGY	101
Introduction.....	101
Conceptual Framework.....	104
Implicit and Explicit Instruction	104
Threshold Vocabulary.....	105
Qualitative Differences Within Instruction Practices	105
Research Design	107
Research Questions.....	108
Setting	111
The Classes	113
Recruitment Procedure.....	113
Instructors	114
Participants' Background.....	115
Demographics	116
Aim of the Writing Course	119
Course Assignment.....	119
Task Design.....	121
Implementation	123
Treatment	124
Instruments.....	126
The Productive Vocabulary Level Test (PVLТ).....	126
The Lexical Frequency Profile (LFP).....	128
The Depth of Vocabulary Knowledge Test (DVK).....	129
Qualitative Data Collection and Analysis.....	130
Coding Procedures Involving Qualitative Measures	132
Quantitative Data Analysis	132
Conclusion	139
CHAPTER FOUR.....	140
FINDINGS OF THE QUALITATIVE INVESTIGATION.....	140
Introduction.....	140
Instructional Settings	141
Instructor A: The Tech Savvy Classroom.....	142
Instructor B: The Traditional Classroom	143
Instructor C: The Large Classroom.....	144
Instructor D: The Small Classroom	144
Summary.....	146
Vocabulary Instruction in the Treatment and Control Classes	146
Focus on Forms Activities (Treatment Group).....	147
Implicit Vocabulary Writing Activities (Control Group)	148
Comprehensible Input and Form Focused Instruction.....	149
Implicit Vocabulary Instruction.....	149

Form Focused Instruction (Treatment Group).....	152
Rich Lexical Instruction.....	155
Conclusion	157
Pushed Output.....	158
Direct Error Correction.....	160
Indirect Error Correction	162
Instructor Practices.....	163
Instructor A.....	164
Instructor's Feedback	166
Instructor B	166
Instructor's Feedback.....	168
Instructor C	168
Instructor's Feedback.....	170
Instructor D.....	171
Instructor's Feedback.....	172
Informal Interviews of Students.....	173
Vocabulary Instruction.....	174
Word Use	175
FonFs Activities	176
FonF Activities.....	177
<i>Discussion</i>	178
Learning Strategies.....	178
CHAPTER FIVE	182
FINDINGS OF THE QUANTITATIVE INVESTIGATION.....	182
Introduction.....	182
Research Question #1	183
Overall Difference Between Control (Implicit) and Treatment (Explicit) Groups.....	186
Null Hypothesis One.....	187
Null Hypothesis Two	188
Null Hypothesis Three	188
<i>Interaction Plot for Control and Treatment Groups</i>	189
Differences between Individual Class Groups.....	190
Individual Subgroup Scores Based on Pretest and Posttest UWL Scores	192
Research Question #2	193
Results	195
Correlation Effect.....	196
ANOVA	198
<i>Interaction Plot</i>	199
<i>Interaction Effect for (Class) Subgroup's Ability</i>	202
Academic Word Use by Ability.....	203
Lexical Density	205
Topic and Word Use	207

Research Question #3	210
Results	212
Null Hypothesis One.....	214
Null Hypothesis Two	215
Null Hypothesis Three	215
<i>Interaction Effect</i>	216
The Effect of Proficiency Levels	217
Research Question # 4	219
Results	222
Results of the Independent T Test	223
Correlation Effect.....	224
Scatter Plot	225
Research Question # 5	226
Results	228
Correlation Effect (Treatment Group)	229
Correlation Effect (Control Group)	230
Scatter Plot Effect for Control and Treatment Conditions (L1 and L2 groups)	231
 CHAPTER SIX	 234
CONCLUSIONS AND IMPLICATIONS	234
Summary	234
Findings from the Study	237
Research Question #1	237
Effect on Instruction	237
Difference between Pretest and Posttest Scores and Proficiency Level	238
Effect of Instruction on the Various Classes.....	238
Effectiveness of Explicit Instruction (Treatment).....	239
Effectiveness of Implicit Instruction (Control).....	239
<i>Discussion</i>	240
Research Question #2	241
Overall Grades and AWL scores	242
The Effect of Instruction on Academic Word Use	243
<i>Discussion</i>	245
Research Question # 3	246
Effect of Instruction for Language Groups.....	247
Threshold Vocabulary.....	248
Research Question # 4	249
Difference between L1 and L2 Subjects' Word Meaning and Word Collocation Score	249
Relationship Between Word Meaning and Word Collocation	250
<i>Discussion</i>	251
Research Question # 5.	252

Scores on Word Meaning and Word Collocation on the Revised DVK.....	252
Degree of Correlation for the Revised Sections	253
<i>Discussion</i>	254
Conclusions and Implications	255
Second Language Instruction.....	256
Vocabulary Instruction.....	257
The Writing Classroom.....	259
L1 and L2 Learner Differences.....	260
Focus on Forms Activities	261
Lexical Organization.....	262
Pedagogical Implications	264
Giving Meanings versus Guessing Meanings.....	264
Word Meanings and Word Use.....	265
Vocabulary Strategies	266
Recommendations	268
Limitations of the Study	269
Conclusion	270
Appendix A: Survey	272
Appendix B: The Vocabulary Levels Test (Version A)	275
Appendix C: The Vocabulary Levels Test (Version B)	277
Appendix D: Depth of Vocabulary Knowledge Test	280
Appendix E: Sample Task	284
Appendix F: Interview Questions	285
REFERENCES	286

LIST OF TABLES

Table 3 1: Group Distribution.....	115
Table 3 2: Distribution of Subjects According to L1 and L2 Learners.....	117
Table 3 3: Language Preferred for Extensive Reading.....	117
Table 3 4: Permanent Residence.....	118
Table 3 5: Length of Stay in the United States.....	118
Table 3 6: Level of Fluency in the Written Language.....	119
Table 3 7: Research Procedures.....	123
Table 3 8: Data Analysis.....	138
Table 4 1: Instructional Settings and Input Strategies.....	145
Table 4 2: Summary of Mean Results for Strategies Used.....	179
Table 4 3: Ten Most Frequently Used Strategies.....	180
Table 4 4: Ten Least Frequently Used Strategies.....	181
Table 5 1 : Distribution of Subjects by Language, Instructional Group and Class Group.....	185
Table 5 2: Mean and Percentage of Scores on PVLТ (Pretest & Posttest).....	186
Table 5 3: Tests of Between-Subjects Effects.....	187
Table 5 4: Tests of Within-Subjects Contrasts.....	188
Table 5 5: Between-Subjects Effects.....	190
Table 5 6: Tests of Within-Subjects Effects.....	190
Table 5 7: Pre and Post UWL Scores by Ability.....	192
Table 5 8: AWL Scores on the Essays (E1, E2, and E3) and Essay Scores.....	195
Table 5 9: Correlation Effect between Learner Grades and Essays.....	197
Table 5 10: Tests of Between-Subjects Effects.....	198
Table 5 11: Tests of Within-Subjects Contrasts.....	199
Table 5 12: L1 and L2 Learner’s Overall Academic Word Use by Ability.....	204
Table 5 13: Word Use at 2000 and AWL Levels.....	209
Table 5 14: Differences between L1 and L2 Pretest and Posttest Scores.....	213
Table 5 15: Tests of Between-Subjects Effects.....	214
Table 5 16: Difference Within Pretest and Posttest Scores.....	215
Table 5 17: Test of Between Modified Treatment and Language Groups (>80% @ 2000 level)	217
Table 5 18: Tests of Within Modified Treatment and Language Groups (>80% @ 2000 level)	218
Table 5 19: DVK Scores for L1 and L2 Subjects.....	222
Table 5 20: Independent T Test Results for Differences Between Language Groups (L1 & L2)	223
Table 5 21: Correlations for L1 and L2 Subjects.....	224
Table 5 22: Scores for Revised Sections of the DVK Test for Language and Instructional Groups	228
Table 5 23: Correlation Analysis for the Revised Sections of the DVK Test.....	230
Table 5 24: Correlation Between Overall Words and Target Words (Control).....	231

LIST OF FIGURES

Figure 5 1: Interaction Plot for Instructional Groups.....	189
Figure 5 2: Interaction Plot for the Subgroups	191
Figure 5 3: Interaction Plot for Groups by Word Use for E1, E2 and E3	200
Figure 5 4: Interaction Plots for L1 and L2 Subjects by Essays	201
Figure 5 5: Academic Word Use for L1 Subjects	202
Figure 5 6: Academic Word Use for L2 Subjects	203
Figure 5 7: Excerpt from L2 learners' Essay and the Lexical Frequency Profile.....	206
Figure 5 8: Excerpt from L1 learners' Essay and the Lexical Frequency Profile.....	206
Figure 5 9: Writing Sample of L1 Subject.....	207
Figure 5 10: Writing Sample of Proficient L2 Subject	208
Figure 5 11: Writing Sample of Less Proficient L2 Subject.....	209
Figure 5 12: Interaction Plot for L1 and L2 Subjects' Performance.....	216
Figure 5 13: Interaction Plot between L1 and L2 learners UWL (modified group)	218
Figure 5 14: Scatter Plots for Meaning (DVKM) and Collocation (DVKC) (L1 (a) and L2 (b) Subjects).....	225
Figure 5 15 : Scatter Plot for Definition and Collocation of L1 and L2 Subjects (Treatment)..	232
Figure 5 16: Scatter Plot for Revised Word Definition and Word Collocation of L2 Subjects (Control).....	233

ABSTRACT

This is an in-depth study of word knowledge where the researcher attempts to investigate the need to systematically teach vocabulary in the language classroom. It is motivated by findings within second language (L2) vocabulary testing research that state that the current communicative language learning environment is insufficient for L2 learners to acquire adequate vocabulary knowledge and L2 learners need help with vocabulary learning (Laufer, 2005). This semester-long study explores the need to provide explicit vocabulary instruction from within a meaningful environment. It also investigates the relevance of focus on forms and focus on form practices in helping second language (L2) learners increase the size and depth of word knowledge. The study involved 129 undergraduates from a writing program, and used a pretest and posttest design to measure gains in L2 learners' vocabulary knowledge. The results indicate that the vocabulary gains for both implicit (control) and explicit (treatment) instructional contexts were not very different though the subjects in the implicit instructional group learned slightly more words compared to the explicit instructional group. However, this has more to do with individual instructor effectiveness and learner proficiency. In terms of word use, L2 learners subjected to explicit focus on forms and focus on form tasks increased their word use while the first language (L1) learners and L2 learners from the control groups did not increase their academic words. Therefore, it is possible to suggest that L2 learners can be taught to increase the depth of their vocabulary knowledge through explicit instructional practices. In terms of L1 and L2 learners, the initial findings revealed that the L2 learners did not benefit from explicit

instruction. However, additional analysis revealed that subjects with sufficient vocabulary knowledge at the 2000 word level can increase their word size much more rapidly than the proficient L2 learners in the control group. An additional test on L1 and L2 learners' word collocation skills indicated that while explicit instruction did not help increase L2 learners vocabulary size, it was able to help L2 learners increase their word collocation skills and also make word associations that are closer to L1 learners' associations.

CHAPTER 1

INTRODUCTION

Introduction

Second language vocabulary research is presently going through a renaissance. The last three decades in particular have been witness to an enormous amount of research related to the teaching and learning of second language (L2) vocabulary (Nation, 1990; Coady & Huckin, 1997; Schmitt & McCarthy, 1997). Developments in testing research have brought L2 researchers into closer contact with applied linguists and specialists in measurement and technology. These collaborations have brought forth a rich variety of resources and testing tools that have made it possible to address problems in L2 vocabulary research that were only considered remotely possible twenty years ago (Bachman, 2000). While these developments do by no means preclude earlier research on L2 vocabulary, it must be acknowledged that unlike syntax and morphology, L2 vocabulary research had been sidelined from mainstream linguistics and pedagogical research from the 1950s and subsequently fell into a period of rapid decline. In fact, it has been half a century since the emergence of the influential works of Palmer and West. Currently, at the turn of the millennium, L2 vocabulary researchers find themselves having theoretical, methodological and technological support that enable them to make a strong case for vocabulary to be explicitly addressed in the classroom.

Presently, L2 vocabulary research is motivated by studies that aim to get instructors to systematically integrate vocabulary into the classroom. This integration

involves four main strands of activity. First, it is necessary for learners to acquire vocabulary from meaning focused input. Second, there is the need for direct and explicit vocabulary instruction that would enable learners to notice words that are useful for a particular audience. Third, vocabulary acquisition requires tasks that enable learners to engage in productive activities. Fourth, real vocabulary knowledge requires fluency that makes proficient L2 learners' capable of making word associations that resemble first language (L1) users' performances. While, these concepts appear straightforward, it must also be realized that the current perspective of learning vocabulary through context in the language classroom is insufficient for L2 learners. Like grammar acquisition, L2 vocabulary acquisition requires explicit instruction in the adult L2 classroom and this research is designed to address these concerns as well.

In terms of research, L2 vocabulary studies appear to have permeated just about every aspect of teaching and learning of L2 vocabulary. These include among a host of related vocabulary research, investigations into the amount of vocabulary necessary for covering sight word recognition during reading (Nation and Laufer, 1995; Laufer, 1997; MingTzu & Nation, 2004, Coxhead, 2000); writing (Liu & Shaw, 2001); listening (Nassaji, 2004; Vidal, 2003) and the strategies for increasing word knowledge (Nassaji, 2004; Tseng, Dornyei, & Schmitt, 2006). In addition, the long tradition of investigating vocabulary in reading and L1 research has prompted L2 researchers to look at the words learned through L2 reading, direct instruction (Zimmerman, 1997) and instructionally enhanced reading (Hulstijn, Hollander & Greidanus, 1996). Many of the findings indicate that vocabulary knowledge involves much more than size (Laufer,

2005), L2 learners work from with a limited vocabulary knowledge (Schmitt, 1998), L2 vocabulary development is a slow and patchy process (Grabe & Stoller, 1997; Henriksen, 1997), occasionally even involving vocabulary loss (Meara, 2004), requires noticing and elaboration (Ellis & He, 1999) and rich instruction for consolidation and retention to take place (Verspoor & Lowie, 2003). In other words, the vocabulary acquisition process is complex and multidimensional involving both internal and external mechanisms, and L2 learners require help with increasing their vocabulary knowledge in the language classroom.

Statement of Problem

Despite the rapid increase in vocabulary research over the last two decades, a number of leading vocabulary testing researchers (Meara, 2002; Read, 2000; Singleton, 1999) insist that more needs to be done. The current findings from vocabulary research are seen as stages of rediscoveries from the early works of Palmer and therefore should not be construed as developments. Meara (2002) states that for real development to take place, vocabulary studies must systematically investigate how learners produce language in context, see how it effects the way L1 speakers evaluate them and identify the disfluencies that distort the way learners with limited proficiencies put their messages across. Read (2000) insists that the current research framework is excessively focused on individual words and that vocabulary assessment studies need to be complemented by more macrolevel perspectives of the overall state of the learners' vocabulary. Singleton (1999) calls for greater collaboration between researchers in

terms of qualitative, quantitative as well as durative research and warns that vocabulary researchers risk becoming a self-referring ghetto unless they start integrating research from other disciplines. Schmitt (2000) points out that not enough is being done to inform language teachers of the developments in vocabulary and testing research. Meara (2002) points out that a better direction for real development in research would be for researchers to devise a set of tools that can be administered by non-specialists without the need for sophisticated equipment.

Explicit Vocabulary Instruction

In relation to vocabulary instruction, the current position on learning L2 vocabulary learning is that, "... vocabulary is best acquired in purely meaning focused instruction" (Doughty and William, 1998). Similarly, DeKeyser (2001) whose position on form focused instruction in grammar includes some aspects of focus on form (fonf) and focus on forms (fonfs), believes that vocabulary should be acquired through meaning centered education. Many of these assumptions about learning vocabulary in context can be traced to its origins in Krashen's (1985) input hypothesis which posits that individuals acquire language through comprehensible input arising from natural interaction. There is considerable truth in that view considering the fact that word learning is a cumulative process and additional exposures to words through context can enrich and strengthen L2 learners' word knowledge. Nevertheless, form focused instruction emerged out of the realization by applied linguists that learners need to consciously notice forms and meanings these forms realize in input (Schmidt, 1994).

Presently, form focused instructional activities are well received within grammar instruction, but are not seen to be necessary for vocabulary instruction. Meanwhile, Folse (2004) and Laufer (1997) argue that L2 learners are not able to notice vocabulary through context, and attention to form is necessary for the L2 vocabulary acquisition process. However, Sinclair and Renouf (1988) point out that "... it is exceptionally difficult to teach an organized syllabus of both grammar and lexis at the same time" (p. 143). Tozcu and Coady (2004) add that when a syllabus is organized around grammar, then, it is highly unlikely that vocabulary can be emphasized simultaneously. All the same, Nation (1997) insists that certain words need to be taught directly, and cautions that any focus on vocabulary studies that need to change must "... take into account the relationship between vocabulary and grammar" (p.170). This is true, considering the fact that word meanings occur only in relation to other words, and context can radically change the meaning of the words, making familiar words opaque and unfamiliar words transparent.

Quantitative and Qualitative Research

In terms of investigating instructional methods and learner proficiency based on word knowledge, both quantitative and qualitative dimension studies have significant contributions to make to L2 vocabulary research. Then again, despite the oft repeated cliché that the best research needs to be quantitative and qualitative, the situation on the ground in Second Language Acquisition (SLA) research and other areas of linguistics is conflictual in relation to methodological predilections. As Van Hout (1996) explains,

“...for some purposes quantitative analysis is simply a confusing superfluity” and “certain types of evidence lose out much of their value when treated as a constellation of countables”. Singleton (1999) states that it appears almost as if “... the quantitative camp has more to learn or is more at fault than the qualitative camp” in resolving the language issue. Perhaps, much of this has to do with the fact that that vocabulary researchers continue to look at vocabulary as a discrete item when existing conventions call for language to be studied in relation to the negotiation of meaning and the sociolinguistic aspect of word use. Then again, as Singleton rationalizes, it needs to be realized that lexical units are easy to isolate and easy to count, and this has probably attracted more quantitative attention than other aspect of language (p.278). In addition, this does not only apply to language descriptive levels (e.g. word frequency counts), but also at the psycholinguistic levels (quantification of “vocabulary size”, mathematical modeling of “vocabulary growth”). Currently, with all the contribution from technology and greater awareness from SLA research, measuring lexical units is no longer perceived as straightforward, rather it is as intense as any descriptive research and is able to bring about a macrolevel perspective to the issue by studying a cross section of learners’ performance, something which would have taken years to discover through qualitative studies.

Nevertheless, SLA researchers who are more concerned with the interlanguage view the allocation of scores to specific vocabulary knowledge, which are also seen as “constructs” by vocabulary researchers to be unsettling (Swain, 1990). Then again as Bachman (1998) states, the intention of SLA research is to document and explain the

learner's changing interlanguage. In this matter, vocabulary tests and measures have been able to provide reliable descriptions of language at the various stages of development (p. 32) and have proven to be reliable in terms of gauging a learner's overall language proficiency. In addition, vocabulary testing researchers have continuously reassessed the vocabulary knowledge construct through their multidimensional framework making it possible to observe and quantify several aspects of vocabulary knowledge and word use, when it was once dismissed as unobservable.

Sociolinguistic Issues

In relation to the sociolinguistic aspects of word use, an increasing number of studies have discussed the double bind of "homegrown" non-native speakers of English who have learned English as a second language or as a foreign language, and later studied in an immersion context and yet do not fully benefit from the system. These students are said to contribute to the imbalance in the neat categorization of writers at English speaking institutions (Harklau, 2002; 2004). As Cameron (2002) points out, most mainstream instructors have not been trained in their initial teacher training for this new responsibility, and it is unusual to find content teachers who have focused on language development in their continuous professional development. To make matters worse, many of these instructors are unlikely to speak the L1 of the students, thus making it difficult to interpret, translate or explicitly contrast the differences between L1 and L2 transfer. In fact, the institution in which the present research was carried out was not atypical in having, at the time of the study, a wide variety of students from different parts

of the globe and instructors who were graduate students from a number of different disciplines. Currently, very little detailed empirical research into the patterns of this instructional context has been carried out. Nevertheless, the disparities between L1 and L2 students' vocabulary sizes make it difficult for any meaningful interaction to take place in language classes. As repeatedly addressed by Danesi (1998, 2000), limited vocabulary and the lack of conceptual understanding affect L2 learners' comprehension of academic discourse. This has prompted vocabulary researchers to call for learners to be explicitly taught the first 2000 to 3000 words of the English Language (Nation, 2001; Tozcu & Coady, 2004; Schmitt, 2000), be provided opportunities to notice words and their meanings through form focused instructional activities (Laufer, 2005), and be provided rich lexical elaboration that will enable learners to organize words and concepts like L1 speakers do (Verspoor & Lowie, 2003). Unfortunately, there appear to be little progress in that direction because practitioners continue to address vocabulary in context and through incidental learning practices, which does not necessary help learners notice and attend to crucial vocabulary.

Background to the Study

To provide a perspective from which to view this study, background information on three important aspects of the study will be discussed. The three aspects being: (1) the complexity of vocabulary learning; (2) the importance of context and interaction within SLA ; and (3) the significance of assessment tools for measuring vocabulary. The

following discussion emphasizes the relationship of these aspects to the study as a whole and also provides the rationale for the proposed study.

Complexity of Vocabulary Learning

Reading is often claimed to be the major source of vocabulary growth in L1. In fact, the symbiotic relationship between vocabulary knowledge and reading ability or reading as both a cause and a consequence of vocabulary acquisition has been well documented (Nagy Herman & Anderson, 1985; Nation & Coady, 1988; Stoller & Grabe, 1997). In this matter, a good reader is said to be capable of recognizing most of the words in the text as well as guess the meanings of unfamiliar words. In addition, reading is often credited with the phenomenal growth of L1 vocabulary during early school years. Similarly, a strong relationship between vocabulary knowledge and reading comprehension is considered necessary for all levels of literacy and education for both L1 and L2 learners. As learners increase in their academic level, their need for word learning increases as well. Schmitt (2000) notes that the L2 learner needs approximately 2000 words to maintain conversation, 3000 word families to read authentic texts and as many as 10,000 words to comprehend challenging academic text. Nation (2001) suggests that it would be worthwhile for instructors to focus on instructional activities that can explicitly help them teach the first 2000 to 3000 words in the English language especially when time happens to be constraint for the L2 learner and performance appears to be the necessary goal.

The Role of Context in Vocabulary Acquisition

In terms of learning, it is widely agreed that vocabulary should be taught in context and that words taught in isolation are generally not retained. To fully grasp the meaning of a word or phrase, it is necessary to be aware of the linguistic environment in which the word or phrase appears. Oxford and Scarcella (1994) observed that while decontextualized learning such as word lists helped students to memorize vocabulary for tests, students rapidly forget words memorized from lists in most cases. Krashen (1989) maintained that vocabulary is best acquired through massive reading for pleasure rather than through purposeful vocabulary exercises. However, the works of Ellis & He (1997), and Joe (1995) went on to demonstrate that in addition to context, oral and mixed language input provide more effective outcomes for vocabulary learning. Joe (1995) investigated vocabulary knowledge gains by adult learners who were required to perform a read and retell task. The study found that the task demands (attention, retrieval and retention) led to significantly higher levels of incidental vocabulary learning. Similarly, Paribakht & Wesche (1999) found that learners attend to words that they perceive as relevant to performing a given task, and these differences lead to differential vocabulary learning outcomes. Thus, learner engagement in vocabulary processing during reading "... is in some fundamental sense not 'incidental' (Paribakht and Wesche, 1999, p.215). At this juncture, it can be said that despite the indispensable role of reading in much advanced vocabulary learning, it is becoming increasingly apparent that the L2 vocabulary learning process is often slow, misguided, haphazard with different learning

outcomes for different learners, word types and context (Bensoussan & Laufer, 1984, Parry, 1993).

Guessing and Inferencing

The differences in word learning outcomes for L2 learners can be related to the lexical inferencing process. Lexical inferencing involves being able to make informed guesses as to the meaning of a word in light of the available linguistic cues in combination with the learner's general knowledge of the world, awareness of context and relevant linguistic knowledge. If the learner is successful, it will enable the learner to comprehend the listening, interaction or reading context and under favorable conditions may lead to the retention of the word form as well as the semantic and other lexical form. However, with greater awareness of the reading process, it is becoming increasingly evident that many words are not easily guessed, and words that are guessed are not easily retained and sometimes forgotten. In addition, learners assume they understand some words because they appear familiar and overgeneralize without necessarily knowing the actual meanings.

The Task, The Word and The Learner

Currently, SLA research has identified the task, the word, the learner and the learning condition as necessary for promoting or discouraging word learning. The complexity of the text, the features of the words used, the learners' level of proficiency and the requirement of the tasks play important roles in helping the learner understand

the meaning of the word. It is also believed that content words with clear referents (e.g. nouns, verbs and adjectives) are more easily learned than function words (e.g. articles and prepositions) (Paribakht & Wesche, 1997). Beyond the word features, the presence of the surrounding text is said to enable learners to infer word meaning and a lack of ability to infer such meanings may lead to misguesses (Laufer, 1997).

Individual learner differences are also said to play a role in word learning in terms of greater depth of processing. This includes the learning burden of a word, when "...the more a word represents patterns and knowledge that learners are already familiar with, the lighter its learning burden" (Nation, 2001, p. 23-4). In addition, words are more likely to be learned incidentally if a) they are recognized cognates between the native and the target languages, b) there is significant L2 exposure, or c) other L2 related words are known. This goes beyond the level of being able to infer word meanings to the use of multiple cues and being able to interpret paradigmatic and syntagmatic relationships. Researchers have also suggested that word learning can be improved through strategy training (Fraser, 1997).

Further, it can be said that that vocabulary learning outcomes from reading can be unpredictable for L2 learners depending on the way they interact with the text, the efforts they invest in processing the word meaning, their level of familiarity with the word experience and their skills for using strategies to successfully solve their language problems. Instructors must consider these factors before leaving vocabulary learning to the learners' ability.

Interaction and Instruction

According to Dell Hymes (1972) "... the key to understanding language in context is to start not with language but with context ... [and then to] systematically relate the two" (cited in Collentine and Freed, 2004, p. 153). Presently, with development in SLA research, there are two coexisting lines of research that are of equal importance to understanding context. Long (1997) states that it is important to provide an understanding of the acquisition process in psycholinguistic terms relatively independently of external factors, while Firth and Wagner (1997) contend that the best predictive models of SLA must consider the interaction of social activity and psycholinguistic elements. To fully understand the implications of these positions, it is necessary to understand the various instructional conditions.

Feedback and Instructional Practices

The 80's and 90's witnessed an unprecedented level of research in the types of tasks in which learners might engage to advance acquisition. The dominant assumption being that a cognitive model of SLA could explain the interaction between a) input oriented, output oriented, interactional, and task based instructional techniques and b) acquisition. This prompted researchers to concentrate on the efficacy of implicit and explicit teaching strategies (Robinson, 1996), the effects of consciousness raising techniques, such as whether learner attention should be directed at form during meaning focused lessons (Doughty & Williams, 1998), the role of feedback (Long, Inagaki, & Ortega, 1998), the psycholinguistic principles of input processing (VanPatten & Oikkenon, 1996) and the

role of output on development (DeKeyser & Sokalski, 1996). Incidentally, Norris and Ortega (2001) found no clear cut superior methodology or instructional technique that facilitated acquisition, even if the techniques that emphasize meaningful language use were commensurate with psychologist knowledge about how the brain internalizes new knowledge. Nevertheless, there is growing suspicion among researchers about the inadequacy of a theory of SLA that fails to accommodate the role of cognition and learning context. Crookes (1997) states that highly analytical approaches to studying L2 language features removes developmental observations "... to a greater or lesser degree from their social setting" (p. 100). Long (1997) meanwhile acknowledges that "... a broader, context sensitive, participant sensitive sociolinguistic orientation might prove beneficial to SLA research" but cautions against the adoption of research practices to "local, particular events" (p. 322).

Communicative Conditions

In interpreting context, Hymes' (1974) early accounts of context relationships through eight factors that interact to establish a context for interpersonal communication: setting, participants, end (purpose), act sequence (form and content of an utterance), key (verbal and nonverbal manner), instrumentalities (choice of channel and code), norms of interaction and interpretation and genre happens to be a useful start. Ellis (1994) states that the process of language change and acquisition in addition to stylistic and cognitive variables are powered by normative pressures, and this needs to be explained through discussions of learner differences. In other words, in addition to

the integrative motivational factors, learners experience either institutional or pedagogic pressures. Batstone (2002) explains that learners essentially confront two contexts: communicative and learning. Communicative contexts require learners to use the L2 as a tool for exchanging information, while the learning context is one in which input and learner output are fashioned (normally with the assistance of the teacher) so that learners will attend to form and take risks toward furthering their linguistic development as they would in a learning context. These features need to be explored as external factors affecting learning.

Context for Learning

To fully appreciate the importance of the above factors, it is necessary to consider the learning conditions in which the participants would obtain their learning input. First, the language classroom is heavily biased towards comprehensible input for learning, where instructors assign specific tasks that serve as communicative tools to foster awareness and understanding. Second, the immersion context is one where learners are placed in a situation where L2 learners agree to speak in the L2. While the interactions may not be totally natural, given the fact that the only L1 speaker would be the instructor, these learners are still required to communicate in the L2. Third, the combination situation is where L2 learners study the language with L1 speakers. Here negotiation involves L1 speakers and L2 students soon find the need to develop sophisticated strategies for interaction to take place. Collentine & Freed (2004) report that learners engaged in interactions with L1 speakers often consciously attempt to

utilize in communication interactions explicit knowledge that they have attained from their learning experiences. Then again Batstone (2002) feels that a threshold level of development might be necessary for learners to truly benefit from the communicative contexts. This is due to context where the risk taking behavior that facilitates pushed output takes time to emerge due to interpersonal relationships, and this in turn makes it difficult to establish linguistic exchanges (Collentine & Freed, 2004). Any forced social interaction with the L2 can lead to the development of complex morphosyntactic abilities and pushed output can incur threats to face and ultimately risk taking (p.155).

Collaborative Learning Environment

Lantolf (2000) meanwhile contends from a sociocultural perspective that immersed contexts that provide learners with inadequate opportunities for linguistic apprenticeship will not lead to advance L2 development. Atkinson (2002) encourages researchers to adopt a sociocognitive perspective and contends that learning being a part of everyday life includes novices and experts who are regularly paired in interactions. Therefore, any comprehensive theory of SLA has to delineate what these teaching opportunities are and encourage instruction to emulate such interactions. Currently context of learning and the influence of external factors, in addition to their theoretical interest to SLA researchers are important, especially to educators involved in language policy issues and program design because such professionals must devise cohesive curricula that facilitate language acquisition. Nevertheless, the above discussion is important because it indicates that numerous challenges remain when attempting to understand the influence of context in

learning. One of the more salient aspects of the discussion is the need to balance empirical data with long held assumptions. Crucial to continuing exploration in SLA is the value of refining testing measurements to better define the linguistic feature that is being measured as well as the social conditions surrounding, affecting and perhaps impeding learner vocabulary gains. Perhaps the most important aspect of this section is the recognition that research that looks at learner differences must also address the interaction of individual cognitive abilities and the differential aspects of learning contexts.

The Nature of Discrete Item Tests

There are three areas of use for vocabulary tests: a) for research, b) for making decisions about learners and c) for making decisions about language programs. Researchers use discrete measures to gain a better understanding of the nature of vocabulary knowledge and the processes of vocabulary acquisition. The assessment procedures do not necessarily have practical applications in language teaching and learning and the test results are subjected to elaborate analysis. Language teachers and testers who employ the test for making decisions about learners often have a different focus. They use tests designs for the purpose of making decisions about placement, diagnosis, measuring progress or achievement. As such assessment of vocabulary operates under different constraints and this can affect the learning outcome as well when different individuals apply the instruments. Nevertheless, the results will be helpful for making relevant decisions. The third use of tests is for making decisions about language

programs. Vocabulary tests can be used to discretely judge the effectiveness of a vocabulary learning program and they provide reliable and valid conclusions.

Completion Tasks

In assessing words, Read (2000) states that there is little point in presenting words in a context unless the test takers are required to engage with the contextual information in some meaningful way in making the response to the task. Completion tasks or blank filling tasks often consist of a sentence from which the target word has been deleted and replaced by a blank. The function of the sentence is to provide a context for the word and perhaps a cue to particular use of it. This is a recall task rather than a recognition one since learners need to supply the target words from memory as in example (1) below.

e.g. 1. Many diamond mines are l_____ in South Africa. (answer: located)

Laufer and Nation (1999) saw it necessary to include more than one initial letter in their productive version of the Vocabulary Levels Test (PVLТ) to ensure that only the target word was the correct answer. When only target words are accepted, this will include recognition and recall. In addition, for learners who did not get the answer, error correction and feedback will include noticing as well. From a writing perspective, the simplest vocabulary writing task would be the sentence writing or paragraph writing as in the example (2) below.

e.g. 2. Write a sentence for each of the following words to show that you know what the word means and how it is used.

Principal

A task of this nature allows the learner to demonstrate several aspects of their vocabulary ability including a) meaning of the target words, b) the grammatical functions within a sentence, c) word collocations; and d) whether learners are capable of using the word “productively” in their writing.

In-depth Vocabulary Measures

Depth tests are necessary for assessing how well learners know high frequency words, especially in situations where learners need to know words that occur frequently across a range of academic disciplines. A test of this nature involves getting learners to provide the different meanings for the target word. However this can be time consuming and inefficient because L2 learners do not necessarily know all the meanings at once, nor are they capable of recalling the meanings within a specified time. In addition, it is difficult to make decisions about the quality of response and be consistent when applying a scoring criteria. The word associates test (WAT) where responses are supplied as indicated in example (3) is considered to be a suitable alternative to assessing depth of vocabulary knowledge.

e.g. 3 Word Associates Test

Peak

(A) initial (B) top (C) crooked (D) punctual	(E) time (F) performance (G) beginning (H) speed
--	--

Answers: (similar meanings = top)

(collocation = time, performance, speed)

Read (2000) found three kinds of relationships between the target word and the associates which are the paradigmatic, syntagmatic and analytic relationships. The test is useful because it focuses on high frequency words that learners are expected to have acquired and need to know. It is designed to provide verifiable evidence of how well the learner knows the target words. It is monolingual in nature and suitable for use in a context where learners come from different L1 backgrounds and therefore need to rely on the target language to interact. It allows coverage for a reasonable number of words, for different meanings of the words, uses the simplest possible test task without relying on other language skills. Most of all, it involves a recognition task, in the sense that test takers select responses rather than recall them from memory. It reduces the demands of the task by comparison with formats that require learners to compose a sentence of significant amount of drafting and reading in context.

Discrete Item Measures and SLA

From this section, it is possible to say that there are a number of reasons for using discrete item testing in research. Then again, some key factors need to be accounted for when using such test designs. It is crucial to keep in mind the purpose of the assessment as various individuals implement and use the instrument and these factors need to be considered when drawing conclusions from the findings. While tests designs can be used to assess proficiency levels, researchers must also recognize that the scores can also be used to investigate broader concepts of lexical ability and gaps in learning. In this context, the design features of the present study remain relevant. Nevertheless, the

study intends to elicit a range of knowledge on receptive and productive vocabulary through the subjects' written essays. Incorporating a contextualized approach to vocabulary testing may be beyond this study because it is difficult to determine how much context is actually needed in a study of this nature. Thus, the various kinds of measures as discussed in this section will be weighed in relation to the vocabulary construct used in the study.

The Relevance of the Study

Presently, development in vocabulary testing has not made much of an impact in the language field and there is a serious divergence between the theories of vocabulary acquisition and classroom practice. It is necessary to narrow the gap and any study that is able to investigate the above concerns for vocabulary knowledge will be able to contribute significantly to understanding of L2 vocabulary instruction and learning from a pedagogical perspective. The findings will be of great relevance to university instructors as well as language instructors in middle and high schools who need to increase their students' vocabulary scores. It is of particular benefit in the United States context, where the Office of Civil Rights (OCR, 2001) warrants school districts to evaluate English language learners' (ELL) language proficiency to determine academic instruction based on the student's language proficiency in English. Similarly, the No Child Left Behind Act of 2001 (NCLB) delineates that ELLS' language proficiency and academic achievement should be assessed in order to have an accountability system for their language and academic growth (Laija- Rodriguez et. al, 2006). While these

policies and acts aim at providing equal educational opportunity to minority students, they actually underscore the need for improving the teaching and learning of vocabulary. Thus, findings from a study of this nature, will be able to provide useful information regarding minority learners' performance. These factors when placed alongside Cummins (2001) and Thomas and Collier's (1997) findings which state that it takes ELL learners at least 5 to 10 years to attain grade level norms, will make it more realistic to design a systematic curriculum for vocabulary learning that will help scaffold L2 learners' academic needs.

The Purpose of the Study

The purpose of this study is to determine how first year L2 English Composition students at the university level increase their academic vocabulary and learn to use it effectively in an L1 context. The major goals of most English writing composition classes are to get learners to write for a purpose and to co-construct their texts in an interactive and collaborative way for a particular target audience (Hyland in Matsuda, 2003, p.166). Similarly, the first year writing program at the University of Arizona introduces students to university level writing. However, like all research universities in the United States, it is not atypical to see speakers of Spanish in the same class with speakers of Mandarin and their levels of proficiency differ from A to Z. There are often differences between the students native languages and the L2, with some learners requiring more time to acquire the words while others appear to catch on with less effort (Zimmerman, 2005, p. 52). This results in some students being able to catch on and be

able to follow the syllabus in an accelerated manner while others remain inert for the whole semester. Understandably, instructors are often reluctant to make “slower” students repeat a level once they have covered the material, since they have to cater to the other students who have made greater gains in the language and must go on. In addition, as Zimmerman adds, face to face sessions and coaching sessions are few and poorly attended (p.53). The situation becomes complicated when the class is comprised of L1, L2 and foreign language speakers, the later being newly placed following a placement test. Although all the students are exposed to the same lessons, text and levels of interaction, interlanguage develops at markedly different rates for different students based on their language learning experiences. Then again, new students who enter the program are placed at the appropriate level, appear superior to the ELLs who have moved up from homegrown schooling environments. Yet it is difficult to provide instruction according to ESL and EFL learner needs, because L2 learning is affected by both L1 and L2 knowledge and learner ability. Therefore, a more efficient of means of investigating L2 learner progress would be to compare L2 learner lexical ability in terms of a comparison a) between L2 learner ability and target learner ability (L2 learners versus L1 learners), and b) within L2 learner ability (proficient learner versus less proficient learner). Therefore, this study will include both L1 and L2 subjects, and they will have different levels of vocabulary ability. The L1 data will serve as baseline input and used for drawing comparisons between learner performance and the target vocabulary.

Investigating Form Focused Instruction

Focus on lexical forms and functions will enable learners to acquire and retain new vocabulary crucial to their learning experience and cognitive development, and this will help them to read, listen, and write more effectively. Within this context, the focus on words must be done in an interactive manner, made accessible in the right amount, and in the desired form. In terms of approaches to teaching vocabulary, this study will cover both the explicit and implicit forms of vocabulary instruction. The changes in the subjects' word knowledge will be assessed using three types of test measures called: a) the *Productive Vocabulary Levels Test* (PVLТ)[Nation, 1999]), b) the *Lexical Frequency Profile* (LFP [Laufer and Nation, 1995]), and d) the *Depth of Vocabulary Knowledge test* (DVK [Qian & Schedl, 2004]). Currently, little research exists on the way L2 learners learn words in the academic setting and survive in the immersion and ESL situation. In addition, there have been few studies that have investigated the effect of processing instruction, especially in relation to word learning and form focused instructional conditions. Therefore, a study to determine if L2 learners academic word use can be enhanced using explicit focus on form and focus on forms communicative practices would be most appropriate.

Assessing Changes in Vocabulary Size and Depth

The study will focus on the changes in the vocabulary size and depth of vocabulary knowledge. First, it will investigate how specific groups of learners develop their vocabulary knowledge according to instructional conditions. The study is two-fold

in that it will look at instructional effectiveness in relation to the text, the task, the learner and the learning process. In addition, it will look at L2 learners' lexical ability in terms of making word associations that resemble L1 associations. Both of these areas of focus will be useful in planning for more effective and efficient vocabulary and language teaching programs and syllabi. Second, data from this study will add to the general body of literature regarding second language vocabulary acquisition. Implications for teaching and learning that spring from these documented changes in students can be considered by instructors and administrators as they relate to students' ability to write efficiently and proficiently. Recommendations for changes in planning and placement of learners may be forthcoming.

Objectives of the Study

The Objectives of this study are to :

1. Observe the changes in vocabulary size of L1 and L2 learners following a series of explicit and implicit vocabulary activities.
2. Identify the relationship between vocabulary competence (as measured by standardized tests) and language performance (as measured on writing samples).
3. Compare the changes in the lexical profiles of learners' essays according to differences in learner proficiency.
4. Determine the relationship between L1 and L2 learners' ability to use words and collocations.

5. Investigate the effectiveness of rich lexical instruction on L2 learners' ability to use word collocations.

In exploring these issues, both empirical and descriptive data are used. The researcher observed the class interaction and obtained additional data on the learning process through interviews and questionnaires. Learners were required to sit for a number of vocabulary tests aimed at measuring their vocabulary ability at periodic intervals. The vocabulary was assessed according to frequency levels. Select classes (treatment) were provided with eight ten-minute long focus on form (fonf) and focus on forms (fonfs) vocabulary tasks, while the remaining students (control) were required to engage in free writing and comprehensible input tasks. The learners were also required to submit three essays which they have written over the semester, and these essays were analyzed for productive vocabulary knowledge. As much work done in applied linguistics is aimed at addressing real language problems and needs, the impact of tests used in this L2 research should be expected to extend into language planning and syllabus design.

Significance of the Study

The main principle underlying this study is that specific ranges of vocabulary provide the “enabling knowledge” required to be successful in other areas of language proficiency (Laufer & Nation, 1999). The study is significant for the following seven reasons.

First, because there is much concern regarding the quality of L2 learners' writings and because of the wide variety of students who enter universities with different

language experiences, competence and requirement. Since success in college has a lot to do with a learner's language proficiency, each individual student's ability matters. However, since many L2 students do not come prepared, they need to be taught to acquire certain levels of vocabulary that will permit them to spend less time on reading and interpreting and more time on understanding and analyzing information. By assessing learners' initial proficiency levels, it would be possible to place them in a more suitable environment that will facilitate their language learning processes. By gaining insights into the types of treatment that positively effects learning, instructors will be able to plan and teach effectively so that learners will be able to optimize their learning process.

Second, if English composition classes are to be held accountable for learners' transition into academic writing, instructors need to take advantage of the current methods of vocabulary instruction and literature which are related to second language learning. Awareness of the gaps in learners' vocabulary knowledge will help instructors restructure certain parts of their instructional practices and provide more attention to keywords that will help learners write more effective academic essays.

Third, with vocabulary being crucial to language development, it is crucial for instructors to recognize the importance of incidental learning and the relevance of both implicit and explicit instructional input that enables L2 learners to increase their vocabulary knowledge. Therefore, this study should not be construed as a narrow investigation of explicit versus implicit instruction, but rather be seen as an in-depth investigation of the internal and external mechanisms involved in the L2 vocabulary

acquisition process. With vocabulary knowledge being multidimensional (word size, word depth, receptive and productive vocabulary and lexical organization), it is also important to assess the development of each dimension in relation to instructional effectiveness. Therefore by comparing form focused instructional tasks with existing input processing practices (meaningful tasks) , it will be possible to determine the quality of the various treatment tasks, and this would be beneficial for instructors in future instructional designs.

Fourth, with the subject of threshold vocabulary being central for learners' ability to comprehend academic discourse, it is necessary to determine if learners are affected by threshold vocabulary when producing academic essays. By comparing the performance of L2 learners who have the threshold vocabulary with those who do not, it would be possible to determine if a particular type of instruction has a positive effect on L2 learner's academic writing skills.

Fifth, the subject of fluency is an important concern in SLA. As fluency development contrasts with the acquisition of vocabulary or metalinguistic knowledge of grammar, (which can be obtained through formal study) and, has often been explored through laboratory based measure, an attempt to study learners' collocation skills through word association measures in real classroom setting may make important contributions to further understanding of how instruction helps collocational ability develop. In essence, the findings of this study would be beneficial because the data can describe how instruction supplemented with task based activities helps change learners' vocabulary

within a shorter time. It will also shed light on whether learners are able to translate their receptive vocabulary into productive vocabulary during writing.

Six, the in-depth vocabulary test will provide valuable information about whether knowing the meaning of a word would result in the learner being able to use it like L1 speakers. Seven, conclusions drawn from the analyzed data may have implications for both L2 and FL writing classrooms. This knowledge will also help practitioners to meet the challenges of devising improved methods, approaches, and techniques for teaching academic and specialized vocabulary.

Hypotheses of the Study

There are several differences between how vocabulary is being taught and how it should be learned. In the context of this dissertation, the question arises as to what is the connection between vocabulary size and depth in the L1 and L2 learner's word acquisition process. The following hypotheses therefore guide this research:

- Meaningful interactive activities will result in an increase in vocabulary size and depth. (There will be an increase in the treatment groups' performance at the end of the semester)
- Form focused instruction provided to the treatment group will enable learners to increase their academic word use.
- Learner performance is affected by threshold level.
- Rich lexical instruction enables learners to gain awareness of word relationship, and this will increase their word association scores at the collocation level. These

hypotheses will serve as the basis for the current study and will be explored in greater detail in the methods section of the study (Chapter 3).

Research Questions

Given the usefulness and nature of the various existing vocabulary tests designs, it is worthwhile to investigate whether adult L2 learners benefit from direct instruction. In addition, it is useful to understand whether attention to academic words will encourage learners to use them in their writings. It is also important to find out if learners' performance is affected by proficiency levels. In terms of fluency, it is useful to investigate whether there is a similarity between the ways L1 and L2 learners organize their vocabulary knowledge and whether instruction can help L2 learners use word collocations that resemble L1 learners' associations. To address the above issues, the following research questions were designed:

- 1) Does vocabulary teaching lead to a gain in scores on the Productive Vocabulary Levels Test (PVLТ):
 - a) when taught explicitly? (Control group)
 - b) when taught implicitly? (Treatment group)
- 2) Do average grades on student's essays (E1, E2, E3) correlate with scores on the AWL section of the Lexical Frequency Profile?

- 3) Is the gain in vocabulary scores for the treatment group greater than the gain in scores for the control group for both L1 and L2 students on the Productive Vocabulary Levels Test (PVLТ)?
- 4) Do scores on the test of word definition section of the DVK test correlate with scores on the test of word collocation section of the DVK test for L1 and L2 students?
- 5) Is there a difference in the degree of correlation between the word definition section (dvkm) of the revised DVK test and word collocation section (dvkc) of the revised DVK test for L1 versus L2 students?

In particular, the last question is designed to investigate whether there is a difference in the degree of correlation between the word definition section (competence) and word collocation section (performance) for the L2 students involved in the treatment and control conditions for a set of twenty target vocabulary items.

Assumptions and Definitions

This study is based on three basic assumptions. First, it is assumed that adult L2 learners benefit from explicit instruction because their mental lexicons allow them to take short cuts. Second, it is assumed that the first 2000 words in the English language are prerequisite to comprehension, and the academic word level is the level for vocabulary that needs to be learned. Third, it is assumed that the ability to use sequentially observed words is reflective of the L2 learners' ability to organize words.

The following definitions are presented to provide understanding and clarity related to the concepts utilized in the study.

Receptive vocabulary :

The vocabulary actually used by a person in silent reading and learning

Productive vocabulary:

Wanting to express a meaning through speaking or writing and retrieving and producing the appropriate spoken or written form.

Lexicon:

The component of a language or knowledge of a language which has to do with what one might call “local” phenomena- the meanings of particular elements of a given language, the phonological and orthographic forms of those elements, and the specific ways in which they collocate.

Lexical Inferencing :

Making informed guesses as to the meaning of a word in light of all available linguistic cues in combination with the learner’s general knowledge of the word, her awareness of context and her relevant linguistic knowledge (Haastrup, 1991, p.40).

Form Focused Instruction:

It is concerned with providing attention focus to the formal aspects of language (grammar, spelling, vocabulary, etc.) and includes both focus on form and focus on forms practices (see below).

Focus on forms:

The traditional mode involving the teaching of discrete points of grammar in separate lessons.

Focus on form:

The drawing of students' attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communications.

Threshold level :

It is the point at which a physiological or psychological effect begins to be produced. Often viewed as a level, point, or value above which something is true or will take place and below which it is not or will not.

Outline of Dissertation

Having explored the background and rationale for the study, this section will now outline the remaining chapters of the dissertation. Chapter 2 will provide a solid theoretical foundation for the investigation of the research questions, and relevant research studies on vocabulary knowledge will be reviewed and critiqued. It will begin with an outline of vocabulary studies and their relevance to L2 acquisition research and classroom practice. This will be followed by an exploration of second language acquisition theories that fit into the framework of vocabulary acquisition and learning. Next, the concepts of input, feedback, instructional activities and vocabulary ability as they relate to the second language classroom will be examined. The chapter will close with a look at the various vocabulary measures that will be used in the study. In Chapter

3, the research design of the study will be presented. First, the research questions that are examined in this investigation will be stated. The chapter will provide information on the subjects, including a survey conducted on the participant background and vocabulary learning strategies which were elicited through a questionnaire study conducted at the beginning of the semester prior to the actual study. Data collection procedures, coding and methods of data analysis will be described as well. The scoring rubrics for the measurement of oral and written assignments will be explained. Chapter 4 will present the results obtained for each research question. Quantitative as well as qualitative analyses of the collected data will provide the basis for a detailed discussion as well as interpretation for the results. Instructors' and students' perception of the treatment are discussed as well. In Chapter 5 the results of this study as reported in Chapter 4 will be interpreted with regard to the pedagogical implications that arise from these findings. Limitations of this study will also be discussed, and this includes opportunities for future research into the need to assess vocabulary as a discrete measure and to integrate it with other language skills and its implications for process and product are discussed.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This study is concerned with the effects of explicit and implicit learning and its implications for adult L2 learners' vocabulary performance. To provide a framework for discussion of the literature, the studies are divided into four categories. Each of the four categories: a) vocabulary knowledge b) vocabulary acquisition, c) input, and d) vocabulary instruction have specific relevance to this study.

Vocabulary Knowledge

As Nation (2001) states, words do not occur as isolated units of meanings, but fit into many interlocking systems and levels. Some researchers define *word knowledge* as involving a range of inter related "subknowledges" such as morphological and grammatical knowledge and knowledge of word meanings (Nation, 1990; Richards, 1974). Others assume *lexical knowledge* to consist of progressive levels of knowledge, starting with superficial familiarity with the word and ending with the ability to use the word correctly in free production (Faerch et. al, 1984). Within these views, tests on L2 vocabulary knowledge have often focused on one subknowledge such as comprehension of meaning (Nation, 1983), production of meaning (Laufer and Nation, 1999), vocabulary use (Arnaud, 1992; Laufer and Nation, 1995) or word associations (Read, 1993), and learners' depth of vocabulary knowledge (Paribakht and Wesche, 1997). The test designs were often based on findings from a tradition of reading research and

L1 studies, and these tests have currently become Industrial standards in the field of foreign language (FL) testing (Meara, 2002).

In terms of relevance to SLA and practice, the realization by testing researchers that measuring size alone no longer provides a satisfactory description of L2 learners' lexical knowledge has led researchers to come up with several knowledge frameworks. Presently, the frameworks consist of traits (e.g. Richards, 1974; Nation, 1990) and global dimensions (e.g. Wesche and Paribakht, 1996; Chapelle, 1998; Henriksen, 1999). Such frameworks describe lexical competence in relation to a) two dimensions (*breadth and depth* [e.g. Read, 2000; Wolter, 2001]), b) c) three dimensions (*quantity, quality and receptive-productive control* [e.g. Henriksen, 1999]) and d) four dimensions (*quantity, quality, receptive-productive control, and lexical organization* [e.g. Chapelle, 1998; Qian and Schedl, 2004]). Presently, it is important to note that the global dimensions framework is a follow up to Bachman's (1990) and Bachman and Palmer's (1996) work which see the purpose of language testing as allowing researchers to make inferences about the learner's language ability, which consists of both language knowledge and strategic competence. In other words, it is necessary for researchers to realize that in discussing vocabulary knowledge, vocabulary competence includes knowing a lot about the word, the grammar, the associations and the ability to draw on that knowledge effectively for communicative purposes under normal time constraints.

Discrete Measures of Vocabulary Knowledge

Currently, vocabulary researchers investigate second language (L2) learners' vocabulary knowledge as discrete items for a number of valid reasons. In 1996, Qian investigated whether L2 words encountered in context were better retained than those presented through decontextualized instruction using wordlists. These studies found that decontextualized L2 vocabulary learning with feedback was more effective for Chinese university students. Schmitt (1999) found that while some test takers "knew" the meanings in context, they failed to guess the meaning when the same words were presented in isolation or in different contexts. In both situations, it was necessary to include discrete measures of vocabulary knowledge in order to identify gaps in the learners' language learning continuum. Then again, Verhallen and Schoonen's (1998) assessments of the lexical knowledge of pupils from Turkish communities who learn Dutch as an additional language through formal instruction revealed that L2 children whose L1 word knowledge was less deep and varied faced enormous problems since they were unable to build on their previous knowledge or make sense of the new words in their L2. This resulted in their falling behind in their academic performance. The results prompted Verhallen et. al (1998) to conclude that while the vocabulary of monolingual children can be built on and deepened through education, education via an L2 slices through this continuity, leaving L2 learners vulnerable to failure. Similarly, Cameron's (2002) assessment of the vocabulary size of English as an Additional Language (EAL) among secondary school learners in England discovered that the receptive vocabulary knowledge of EAL learners who had been educated for more than

10 years continued to have gaps even in relation to the high frequency words, and L2 learners had serious problems at the 5000 word level and specialized vocabulary level. The problem was compounded by the fact that interventions by teachers in relation to vocabulary development were limited to simplification of unfamiliar words, rather than attending to the need to focus on increasing vocabulary size or depth. Once again, it was the findings from discrete measures of vocabulary knowledge that enabled researchers to identify the gaps in the learners' language learning continuum and detect the limitations within the instructional system. Laufer and Goldstein's (2004) computerized test of vocabulary size, which examined the strength of word knowledge according to a hierarchy of difficulty: passive recognition (easiest), active recognition, receptive/passive recall, and productive/active recall (hardest) revealed that this hierarchy was present at all word frequency levels and that growth in vocabulary knowledge was different according to different strengths of modalities. In other words, instructors need to realize that some words are easily learned by specific learners, while other words required additional elaboration and expansion. Using a discrete item test, Zimmerman (2005) measured the vocabulary size of newly placed and continuing L2 students from the intensive English language program in Brigham Young University and found that newly placed students tend to know more word families than continuing students. This resulted in Zimmerman's (2005) conclusion that continuing students were not learning sufficient vocabulary during the course to even match the vocabulary size of their newly placed classmates. The study was important in that it revealed that L2 learners were at risk of losing certain levels of their existing vocabulary knowledge because some words

were not being adequately addressed in the learning context, and infrequent use was resulting in vocabulary loss.

Vocabulary Testing and SLA Research

While at first glance assessing L2 vocabulary seems both necessary and reasonably straightforward, the continuous use of the discrete point vocabulary measures over conventional language learning designs in the field of language testing seems to be a subject of general uneasiness within Second Language Acquisition research. Some leading criticisms are: a) it is difficult to make general statements about a learner's vocabulary based on the scores of such test; b) being proficient in a second language is not just a matter of knowing a lot of words; c) learners can build up impressive knowledge of vocabulary and yet be incapable of speaking beyond the literalness of textbooks; d) learners can have receptive competence but not productive competence; e) words do not occur as isolated sentences but as integrated elements of whole texts and discourses; and f) in communicative situations, it is quite possible to compensate for lack of knowledge of particular words. Testing researchers meanwhile, argue that their studies take slices of the learner's language ability (in relation to vocabulary acquisition components and strategies) at given stages of development and use the results to draw conclusions about the learner's ability in relation to grammatical competence, pragmatic competence and strategic competence. In addition, the test findings are able to demonstrate the ways which learners' test performance corresponds to non-test language use. Read (2000) in *Assessing Vocabulary* points out that vocabulary knowledge should

not be equated with a learner's ability to use particular words in context because discrete measures aim to assess vocabulary for different purposes, and context would merely obscure the purpose. Then again, Read states that it would be useful for lexical models to incorporate lexical communicative competence in addition to the knowledge of discrete lexical items in relation to validity. Nevertheless, existing trends in SLA research and classroom practices reveal that findings from second language vocabulary acquisition (SLVA) research have not made much of an impact in the field, and there is a serious divergence between vocabulary testing research and classroom practices. The widespread preference for proficiency tests to be based on context through task stimulating communicative activities, and the lack of attention to the test designs in classroom practices despite the designs having emerged out of concerns for practical classroom needs, serve as sufficient evidence for the lack of acceptance for SLVA. At this point, it would be important to reassess the relevance of vocabulary testing within SLA.

Relevance of Vocabulary Research to SLA Theory

The differences between SLA research and language testing research are broad, and outlining them would result in gross oversimplification. Nevertheless, some of the concerns noticed by Bachman (1989) remain relevant to vocabulary testing. SLA research concerns itself with the descriptions and explanations of how L2 ability develops and focuses on the interlanguage, and processes and factors that helps with the development of the interlanguage. Vocabulary testing (VT) research meanwhile, attempts

to arrive at models of vocabulary ability that can provide a basis for describing and assessing this ability at a given stage of development. The fields differ in their theoretical goals: SLA is concerned with the theory of acquisition, while testing research is focused on the theories of language test performance and the correspondence between test performance and non-test use. In terms of methodologies, SLA utilizes linguistic analysis of learners' interlanguage utterances, descriptive case studies and experimental and quasi experimental designs, while testing employs ex post facto correlational methods.

At this point, there is also considerable commonality between VT and SLA research in terms of research questions, areas of interest and explanations involving the variability of initial and final attainment. Bachman and Cohen (1998) have outlined three areas of variability that are central to both SLA and vocabulary testing which is widely used for research involving testing within the SLA context.

1. Looking at individual differences in the language abilities that are acquired.
2. Looking at individual differences in the strategies and other processes that individuals employ in language use as well as on language test task.
3. Looking at the variation in the tasks and contexts and their effects on language use as well as on performance on language test tasks and SLA elicitations.

In line with the above suggestions, SLVA researchers (Laufer & Goldstein, 2004, Cameron, 2002; Verhallen and Schoonen, 1993; Zimmerman, 2006) have incorporated a broadened perspective of vocabulary ability in relation to psycholinguistic models, interaction designs and sociolinguistic perspectives. These studies have helped

demonstrate how both SLA researchers can broaden their perspective on vocabulary abilities, while VT researchers continue look at word knowledge at both macro and micro levels.

Discussion

It is evident from the above discussion that it is a question of validity rather than reliability that is limiting the widespread application of discrete vocabulary measures in SLA research. VT researchers' continuous efforts to study vocabulary in terms of size, depth, receptive and productive knowledge and lexical organization, as well as their deliberate attempts to add changes in terminologies and hierarchies, differ from the notions of validity in SLA research. Much of it has to do with the value of employing qualitative methods, which is increasingly being recognized in SLA research. Regardless of the common grounds within VT and SLA research aims, most findings from quantitative studies have not been directly translated into the qualitative research agenda. It is increasingly becoming apparent that quantitative researchers need to include additional techniques such as prolonged engagement, classroom observation, triangulation, and additional documentation to provide greater validity to their research. Furthermore, Dornyei (2003) suggests the integration of questionnaire research "... to collect background information about the participants or to complement classroom observation data" (p. 131). Overall, any quantitative vocabulary research that insists on looking at L2 learners' learning process and instructional effectiveness must be prepared

to investigate the relationship between classroom context and learners' use of interactional feedback as part of the qualitative data.

Vocabulary Acquisition

Language acquisition is a complex and multidimensional phenomenon (VanPatten, 1997) and within it, vocabulary is increasingly being seen as the key component to successfully developing communication and literacy skills. Presently, vocabulary acquisition can be studied from a linguistic, cognitive, social and educational perspective, with each providing important insights into the nature of how vocabulary is acquired and retained. This section will begin with the internal factors that enable acquisition to take place. It will then explore the external factors, in relation to input, input processing, feedback and form focused instruction.

Word and Rule Recognition

According to both Chomsky (1965) and Pinker (1994), language depends on two mental abilities. These include the ability to memorize words in the mental lexicon and the ability to capture the rules of grammar of the language which constrain how the memorized words combine to make sentences. While word learning can be explicit, the learning of grammar rules is seen as largely implicit and therefore not available to conscious awareness. Nevertheless, a number of cognitive models have probed the bases of lexical and grammatical abilities in L1 (Friederici, 2002) and L2 (Ullman, 2002) in an effort to understand the vocabulary learning process. The studies of Ullman (2002; 2006)

in relation to the declarative and procedural memory are of great relevance when attempting to understand the L1, L2 word knowledge and the adult L2 acquisition process.

Declarative and Procedural Memory System

The neural, cognitive and computational bases are not well understood in terms of the second language vocabulary acquisition. Yet, much of the interesting works on vocabulary appear to emerge through computational and connectionist frameworks. This prompted Meara (2002) to suggest that computational and connectionist research may be the way forward for future L2 vocabulary studies. In this line, some L2 researchers have attempted to provide an integrative theory by using what has been understood from L1 acquisition and through a broadened understanding of the brain. According to Eichenbaum and Cohen, (2001) the declarative memory system underlies the learning, representation, and use of knowledge about facts (semantic knowledge) and events (episodic knowledge). This knowledge is said to be partly explicit (Chun, 2000) and available to conscious awareness. The procedural memory deals with the learning and understanding of sequential knowledge, and neither the learning nor the remembering of this process is accessible to conscious memory. This system is referred to as implicit learning. Both the declarative and procedural memory systems interact and help form a dynamically interacting network that yields both cooperative and competitive learning and processing, which can be optimized through systematic learning and practice (Ullman, 2006). In the L1, the two systems lead to a

“see saw” effect whereby a dysfunction of one system can result in enhanced learning in the other. The two systems also display variability in their functioning across individuals.

The Adult L2 Learner’s Dilemma

In terms of the late L2 learner, researchers (Birdsong, 1999; Newport, 1990) state that L2 learners generally do not acquire the language to the level of proficiency attained by younger learners. DeKeyser (2000) proposed that L2 learners be explicitly taught grammar forms because late L2 learning negatively affects the acquisition and processing of grammatical knowledge. According to the Declarative and Procedural model, during early adulthood, the acquisition of grammatical knowledge is more problematic than the acquisition of lexical knowledge. This is related to a decrease in rule abstraction ability (Newport, 1993), the attenuation of procedural memory, and the enhancement of declarative memory. Nevertheless, the relative facility of the declarative memory system compared to the procedural memory system results in young adult L2 learners having to rely on their declarative memory, even for functions that depend upon the procedural system in the L1. This is done through the memorization of complex linguistic forms (e.g. walk + ed). Associative properties of lexical memory are also said to lead to productivity in the L2 (Pinker, 1999). Thus, through direct memorization of complex forms and rules in the declarative memory, the L2 learner is able to reach a fairly high degree of proficiency in the target language (Ullman, 2006). The outcomes nevertheless can vary according to the quality of exposure and individual

ability. There is also the learning burden, where certain complex forms tend to be easier to memorize than others, making it difficult for L2 learners to acquire full grammatical proficiency (Nation, 2001). However, Schacter and Tulving (1994) claim that continuous practice at the declarative system through exposure will enable declarative knowledge to become part of procedural learning (e.g. chunking) and this contributes to improved performance. In other words, it is possible for L2 learners to become L1like in their word use through exposure and systematic practice.

Short Term Memory and Long Term Memory

In terms of mental networking in L2 learners, Lowie and Verspoor (2000) explored the connections between short term and long term memory through the “semantization” and “consolidation” stages. At the first stage, the formal characteristics of a word are matched with semantic content. At the second stage, a newly acquired word is incorporated into the learner’s permanent memory. These two stages are strongly interrelated. If a word is not adequately semanticized, then consolidation fails to take place. Instead, a new lemma is created for a newly encountered word within the mental lexicon. As for polysemous words, the mental lexicon creates separate lemmas for each separate sense of the word, except for situations when the learner is already aware of the meaning relations among the different senses. Within the L2 learners’ mental lexicon (de groot, 1993; Lowie, 2000), the word is not only attached to a particular meaning but also includes a network of semantically related words, including associations from the L1 knowledge. Thus, the success of semantization process is

dependent upon the degree to which words can be incorporated into this semantic network. As for *polysemous* words, the semantization process is aided if the learner is able to recognize the meaning relation between the word's separate senses. These processes are in line with Anderson's (1983) theory of semantic networks which states that all of an individual's declarative knowledge is represented in the shape of a network consisting of nodes and paths. New lexical items cue the retrieval of related prior knowledge and are acquired when stored with related units in the knowledge network as a result of productions (acquisition procedures). The new propositions and prior knowledge stimulate further generation of other new propositions. All new propositions, including those presented by the environment and generated by the learners are stored close to the related prior knowledge that are activated during learning. The network also has a number of "retrieval paths" and as more retrieval paths are linked to the particular unit of information, the better the recall of information. Then again, if activation of a certain path fails, information can still be reconstructed through an alternative retrieval path (Anderson, 1983). These processes therefore become crucial when trying to understand the lexical organization and threshold vocabulary knowledge.

Discussion

Presently, the central issue within Psycholinguistic studies is whether adult L2 learners are capable of learning a language fully through the same implicit learning mechanism used by the child in the L1. The findings from cognitive neuroscience and the declarative and procedural model suggest that the relative facility of the declarative

memory enables the adult L2 learner to acquire the word knowledge and, with sufficient exposure and practice, it is possible to make that learning a part of procedural memory. Implicit memory and implicit learning are in principle independent concepts, and while implicitly acquired knowledge tends to remain implicit, and explicitly acquired knowledge tends to remain explicit, explicitly acquired knowledge can become implicit in the sense that learners can lose awareness of its structure over time, and make it a part of their awareness. Nevertheless, learners continue to have access to the structure in both memory systems and are able to tap into when necessary (DeKeyser, 2000).

Internal Factors: Attention and Awareness

In terms of theoretical approach and classroom practice, the role of attention and awareness to input has always been important. According to DeKeyser (2000), awareness is the defining feature used in SLA on implicit and explicit learning. While almost all SLA theories posit some role for attention and awareness, there is greater emphasis for it within the cognitive models. As mentioned by Schmitt (2001), “attention appears necessary for understanding nearly every aspect of second language and foreign language learning” (p. 6). This is based on the long standing and empirically supported position that attention to stimuli is needed for procedural memory. According to cognitive psychology literature, the human attention is of limited capacity and therefore attention has to be selective. Within SLA, without awareness, input can only be processed in the short term memory and therefore will not be deeply processed for learning to occur. According to Schmidt’s (1990) noticing hypothesis, attention controls

access to awareness and is responsible for noticing, which is “the necessary and sufficient condition for the conversion of input into intake (Schmidt, 1993). This view is taken up by VanPatten (1996) in processing input (it will be discussed later in the chapter).

Schmidt also proposes that in addition to noticing, there is a higher level of awareness which he refers to as the level of understanding. This level of understanding is marked by the ability to analyze, compare and test hypotheses and can involve restructuring and system learning.

Attention and Fluency

According to Segalowitz (2007) fluent processing of words involves continuous focusing and refocusing of attention on the relationships among meanings (in addition to accessing the primary meanings of the content words) and cognitive fluency which involves controlling the shifts of attention in an efficient manner. Favreau and Segalowitz (2000) study on lexical decision tasks involving fluent and less fluent L2 readers, revealed that L2 learners were able to exhibit unstoppable processing when comprehending meanings in their L1 but only highly fluent L2 readers were capable of demonstrating unstoppable processing in their L2. Similarly, Taube –Schiff and Segalowitz’s (2005) study involving grammaticality judgments about content words (truck, boat) and relation words (under, near) found that L2 learners took less time to process content words in their L1 and L2 but a significantly longer time in their L2 for relation words. This prompted the researchers to interpret the results to mean that attention control was linked to fluency, especially when attention directing aspects of the

language were engaged. In other words, relation words pose a challenge for L2 learner's fluency.

Input Processing

Input Processing (IP) is concerned with how learners derive intake from input regardless of the language being learned and the context. Here, intake is seen as the linguistic data that is processed from the input and held in the working memory for further processing (VanPatten, 2004). According to Van Patten (1996), the Input Processing Model comprises of a set of principles and corollaries that interact in complex ways in working memory. It is based on the principle that human attention is of limited capacity, and therefore attention needs to be selective. It can also be related to Gopher (1992), "attention control is constrained to a decision to engage, disengage and shift attention between tasks and the pursuits of intentions" (cited in DeKeyser et.al, 2002, p.808). During communication, the learners' working memory is able to process only a limited amount, and existing information is continuously dumped to make way for incoming information. In this process, according to the Primacy of Meaning Principle, learners first process the meanings from input before they process form. In the learner's mind, words happen to be the principal source of referential meaning. In addition, L2 learners differ from L1 learners in that they come to the task knowing that words already exist. So, based on the primacy of lexical items, learners will first see if such notions are encoded lexically and rely on the meaning before going on to form.

Empirical Evidence for Assessing Internal Factors

In terms of understanding the actual effects of the internal processing mechanisms such as attention and awareness in learning, SLA studies have often used a traditional pretest –posttest design. The findings from the test scores were used to hypothesize about the effectiveness of a given treatment in relation to increased attentional awareness and implicit learning. Over the last three decades, however, there has been a broadened interpretation of the studies, and awareness has been assessed through questionnaires (Robinson, 1995), word knowledge framework (Paribakht & Wesche, 1997), free recall of input (VanPatten, 1990), exploratory research (Schmitt, 1998), and learning diaries (Grabe and Stoller, 1997). These studies have provided additional support for Schmidt's noticing hypothesis and specifically for the role of awareness and understanding in SLA. The study of Leow (1997) indicates that awareness at the level of noticing and understanding contribute to a significant increase in a learner's ability to take in the targeted form and structure. The study of Rosa and O'Neil (1999) demonstrates that awareness at the level of understanding leads to significantly more intake when compared to awareness at the level of noticing. In addition, there is a correlation effect between awareness at the level of understanding and usage of hypothesis testing or rule formation (Rosa and Neil, 1999).

Discussion

This section provides an overview of the roles of attention in learning and

the facilitative effects of awareness for greater understanding of words and their meanings. It stresses the role awareness plays in getting adult learners to use higher thinking skills. It also discusses the Primacy of Meaning Principle in processing input which claims that word meanings are processed before the forms. While current research findings indicate that attention and awareness do indeed have an impact on learning process, it is equally dependent on the external factors that contribute to improved learning as well. Instructors can therefore use their understanding about the Primary of Meaning Principle to tap into L2 learners' existing L1 vocabulary knowledge.

Instructional Input

Acquisition is input driven and is seen as taking place through interaction and experience. In terms of the learning experience, Krashen (1985) should be credited for initiating the movement on input in instructional pedagogy. While the monitor theory is best understood as a performance model that attempted to explain the order of acquisition in both L1 and L2 in terms of the natural order of acquisition, Krashen's *Comprehensible Input* hypothesis (I+1) which called for language to be taught slightly beyond the learner's current level of competence set the agenda for present day language instruction. Krashen defined the differences between implicit and explicit knowledge in terms of *acquired* and *learned* knowledge, stating that explicit input (grammatical explanation and correction) could only result in learned knowledge which functions as a monitor. Inductive learning and implicit learning were seen as similar concepts. This was different from traditional rule based instruction which was seen as deductive and explicit.

Krashen went on to suggest that grammar (including vocabulary) should be learned covertly rather than overtly. McLaughlin (1987) criticized the monitor theory on methodological ground, while Long (1983) provided evidence against the monitor hypothesis and explained that instruction makes a difference in L2 acquisition. White (1991) defended the role of incomprehensible input by arguing that incomprehensible input can prompt L2 learners to realize the need to restructure their system in order to capture missed information. Swain (1985) insisted that input alone would not be able to account for the entire learning process, and therefore, output was necessary. The reaction to the monitor theory was important because it spawned a large amount of research in terms of implicit learning, awareness, processing and knowledge (including vocabulary knowledge), which have become keywords in present day SLA research.

Modified Input

According to Interactionist approaches (Long, 1996), interaction is the most important way in which learners obtain input for language learning. Long claims that interactive tasks that promote negotiation of meaning among learners can facilitate the development of L2. Negotiation is often seen as the product of interactional exchanges that take place when communication breakdowns take place. The learner, upon receiving interactionally modified input, is pushed to produce interactionally modified output (Swain, 1985). This process enables learners to notice certain input features and compare them with their own output. The role of negotiation in these exchanges is that of allowing conscious noticing to take place, and this is necessary for input to transform

into intake. Long (1996) states that negotiation provides learners with two types of linguistic evidence: primarily linguistic evidence when the interlocutor corrects an utterance with the correct form, and negative evidence when the interlocutor provides feedback on the appropriate form. It is argued that negotiations involving modified input tend to be more comprehensible and uniquely suited to L2 learners' particular needs.

Interaction is also necessary from a sociocultural standpoint, especially when viewed from a Vygotskian standpoint and has been applied to SLA by Lantolf (2000). It underscores the collaborative learning environment which promotes interlanguage development, especially when proficient learners help less proficient learners negotiate meaning.

Empirical Evidence for Modified Input and Pushed Output

In terms of research, the studies of Long, Inagaki, & Ortega (1998) and Noboyoshi and Ellis (1993) have investigated interactionally modified input and output. De la Fuente (1998) and Ellis & He (1999) have looked at the role of pushed output production within the negotiation process, and the findings revealed that negotiation of meaning within a communicative environment facilitate vocabulary acquisition by inducing learners to notice unknown words in the input. Loschky (1994) sought to determine whether interactionally modified input facilitated the comprehension and acquisition of Japanese vocabulary in terms of modified input and negotiated input. It was found that the negotiated input group received significantly higher scores on the vocabulary test compared to both the unmodified and pre-modified group. The results

led Loschky to conclude that the interaction had facilitated the comprehension of the vocabulary items but not the acquisition of the grammatical structure. De la Fuente (2002) showed evidence for the benefits for oral productive acquisition of L2 vocabulary when learners were pushed to produce words. Ellis & He (1999) found that the learners who were pushed to produce output achieved higher word levels due to the “superior dialogic interaction”. De la Fuente (2003) suggested that negotiation that centers on lexical aspects of the language may be beneficial for L2 vocabulary acquisition.

Feedback, Recast and Output

Within the language classroom, feedback is generally viewed as an important facilitative element in L2 learning and has a positive effect on acquisition. In recent years, a number of researchers (Long, Inagaki, and Ortega, 1998; Mackey, 1999) have investigated the link between oral feedback and recast and have provided evidence for the facilitative role of feedback in L2 development. In explicit feedback, error correction is often viewed as taking place between an L1 speaker and an L2 speaker (Swain & Carol, 1987; Chun and Luppescu, 1982). Carroll et. al (1992) examined the effects of explicit written feedback on the learning of word formation rules and concluded that explicit feedback helped ESL learners memorize words but not learn French derivational morphology. DeKeyser (1993) in his study of high school L2 learners found that error correction benefited only some learners and not others. This was partly related to the learners’ aptitude, motivation and proficiency. In terms of recast, Gass, Mackay and Pica (1998) state that recasts in the form of error correction help learners notice gaps in their

own production. Output, on the other hand, is seen as being able to promote fluency, draw learners' attention to their linguistic problems and encourage the processing of L2 syntactically. Within classrooms, output facilitated fluency and helped learners move from the declarative knowledge to procedural knowledge, and this freed up attention control, making it possible for the learner to focus on higher level concerns such as pragmatics. The study of Nobuyoshi and Ellis (1993) which engaged students in pushed output found that pushing learners to improve their accuracy improved learners' performances as well as accuracy.

Discussion

In terms of effectiveness of input, it is obvious that modified input is more effective than simple meaningful input. One reason for this can be because learners get to negotiate the meaning at a particular learning stage during the process. The interlocutor is able to manipulate the input according to learner needs and this helps learners notice crucial aspects of the linguistic data. Within this, feedback and recast are useful for improving L2 development. As for output, output facilitates fluency and helps learners to notice gaps in their knowledge, process syntactic knowledge and test hypotheses.

Form Focused Instruction (FFI)

The term form focused instruction characterizes a wide range of instructional types that concur with theories of the role of consciousness and attention in L2 learning

(Spada, 1997). Such form focused interventions focus on shifting learners attention to a particular form within a meaningful context. They are often done with a predetermined syllabus in mind, and can be integrated into a content based and meaning oriented syllabus of the L2 classroom. Some common forms of form focused instructional practices include: a) implicit-inductive grammar teaching; b) traditional explicit grammar explanation; c) consciousness raising activities; d) recast, enhanced outputs involving clarification; e) metalinguistic feedback; and f) input processing instruction and output practices. Within these practices, focus on form, focus on forms and input processing instruction have significant relevance to this study.

Focus on Form (fonf)

Focus on form (fonf) is based on the assumption that though comprehensible input is necessary for acquisition, it is insufficient for acquiring much of L2 grammar. Fonf instructional activities capitalize on brief, reactive intervention within the context of meaningful communication. Here the instructor explicitly draws learners' attention to formal properties of a linguistic feature that appear problematic and are seen as important for future communication (Long, 1991, 1997). Doughty and Williams provide the following definitional criteria for fonf instruction: a) the learner engagement with meaning occurs before attention to the linguistic code, b) an analysis of the learner needs triggers the instructional treatment (Long & Robinson, 1998), and c) learner's focal attention is drawn to form briefly and overtly. Initiated by Long (1991) fonf began as an implicit activity, but it has been modified to include planned fonf, which is the use of

focused tasks "... that have been designed to elicit the use of specific linguistic forms in the context of meaning-centered language use" (Ellis, Basturkmen and Loewen, 2002, p. 420). Similarly, Long's (1991) original suggestion was that fonf should not interfere with interaction, but it has been modified to include both implicit (e.g. recasts, input enhancement) and explicit (e.g. error correction and statement of rule). Regardless of planned, incidental, implicit, explicit, initiated by learner, teacher, fonf instruction must be carried out within a meaning oriented communicative situation.

Focus on Forms (fonfs)

Fonfs activities are based on the assumptions that L2 language acquisition, particularly for adult learners, resembles the acquisition of other cognitive skills (Bley Vroman, 1988). For learning to take place, rules underlying grammatical structures must be explained, and frequent opportunities be provided for practicing these structures in both communicative and non communicative activities. It is justified in terms of skills acquisition theory, which distinguishes the three stages: declarative knowledge; proceduralized knowledge; automatization of implicit knowledge (the ability to use language without thinking about it) (Anderson, 1982; DeKeyser, 1998). Within task related fonfs activities, words are viewed as the objects of learning, which are related and not embedded in a meaning based task. Fonfs activities include completion exercises, matching synonyms, and word association tasks. While the exercises are not necessary for accomplishing good reading comprehension, they are necessary for word

practice and exposure. Pure FonFs activities require learners to work with isolated words that are not related to any meaning based task.

Empirical Evidence for Fonfs

Studies on fonfs activities have looked at vocabulary gains and they were often based on scores of pretest and posttest measures. Kitajima (2001) tested the passive and active vocabulary knowledge of five Japanese L2 students following task related fonfs activities and found that the learners recognized 86 % of the unfamiliar words in their passive vocabulary, and 80 % of their unfamiliar words in their active vocabulary following one month and two month intervals, respectively. Wesche and Paribakht (1997) used a checklist to determine the increase in word gains following a reading and vocabulary task and worksheets assessing depth of vocabulary knowledge. The learners recognized 47.5% of the words learned. Hill & Laufer's (2003) compared reading comprehension with a word selection exercise for 96 university learners of ESL in Hong Kong. Subjects were required to answer comprehension questions as part of the fonf condition while the fonfs condition involved the word selection conditions which required the subjects to select the proper target words from four given synonyms. All learners were unexpectedly tested immediately after the task and two weeks later. The subjects in the fonf condition acquired 42% and retained 29.4 % for the immediate and delayed post tests while the fonfs group acquired 66% and retained 41.6% during the immediate and delayed posttest. In terms of pure fonfs studies, the study of Groot (2000) involving 24 ESL university students revealed that students involved in three

stage word practice computer session (involving translation, word sheets, dictionaries) were able to recognize 67% of the words used in the task during the immediate test level and 46 % of the words during the delayed test. Qian's (1996) study revealed that the L2 students were able to recognize 75 % of the words for the immediate posttest and 61% for the delayed posttest. Qian's study also showed that learners who studied words in lists achieved better results than learners who studied words in context. It was evident from the studies that all learners benefit from forms activity for both passive and active vocabulary knowledge.

Processing Instruction (PI)

Processing Instruction (PI) is a specific type of form focused instructional activity that enables learners to make form meaning connections during input processing. It is based on Schmidt's (1998) *noticing hypothesis*, which states that attention controls access to awareness and is responsible for noticing, and is "... the necessary and sufficient condition for the conversion of input into intake" (Schmidt, 1993, p. 209). Schmidt states that there is a higher level of awareness, which is considered as awareness at the level of understanding, and this awareness requires deep learning (elaboration), which is marked by restructuring and systematic learning. A salient characteristic of PI is that during the instructional phase learners do not produce the target form in question. Van Patten (2003) downplays the role of output in PI, suggesting that the learner's job is to process sentences and interpret them correctly while attending to form. As stated by Van Patten (1996):

“... for acquisition to happen the intake must continually provide the developing system with examples of correct form meaning connections that are the result of input processing” (p.85).

The distinguishing feature in PI is that learners are given the information about the linguistic structure or form. Learners are informed about a particular PI strategy that can negatively affect comprehension. Learners are pushed to process the form or structure during activities with structured input.

Discussion

The principal focus of current SLA research is whether implicit and explicit instruction makes a difference in the developmental process and what types of instruction are most effective for fostering L2 learning in a formal contexts (Doughty, 1991; Long, 1991). The psycholinguistic studies however, have set a precedence for defining how learning and instructional effects can be measured within SLA. In terms of test designs, the pretest and posttest measures of implicit and explicit learning have shown that it is possible to measure the learning as well as the instructional effectiveness, and such test designs are widely popular. Presently, fonf when used with fonfs practice tends to provide greater gains regardless of type of instruction involved. Norris & Ortega (2000) states that “... current cumulative research findings suggest no differences in effectiveness between fonf and fonfs instruction and equivalent overall instructional effectiveness for both” (p.194) and Laufer (2005, 2006) suggests that both techniques are necessary for vocabulary instruction. In terms of implicit and explicit instruction, the

debate continues between input processing treatments of Cardierno (1992, 1995), Van Patten, 1993, Benati (2006) and DeKeyser's (1998) output practices. In this matter, the jury is out. Then again, it is worth considering DeKeyser's (1998) cautionary remarks that testing needs to be conducted at the right time; otherwise, if knowledge is implicit, it can be claimed that learning was explicit, but that explicit knowledge was lost in the meantime (p. 319). As for tests of fluency, it is problematic for the retrieval of explicit rather than implicit knowledge because time pressure does not guarantee a pure measure of implicit knowledge. Short duration is currently seen as being biased against implicit learning as the accumulation of instances in memory takes much more time than the short cut provided by explicit insight.

Summary

In the first part of the chapter, we discussed that vocabulary researchers have made several changes to the definition of vocabulary knowledge within the global dimension framework to accommodate the needs of L2 researchers and classroom practices. Yet, it is increasingly apparent that discrete item measures have not been well received by applied linguists and practitioners since its quantitative measures do not seem to translate easily into qualitative needs. This is unfortunate since a number of discrete item measures have become industrial standards within the foreign language classrooms, and the test designs were designed out of practical concerns for investigating instruction designs and learner needs. Therefore, it would do well for quantitative research to incorporate qualitative measures as well to make their findings more relevant to SLA.

With regard to vocabulary acquisition, the section concerns both internal and external factors that contribute to words and rules. Given the fact that adult L2 acquisition takes place after cognitive development is basically complete, it is necessary to look into compensatory models that explain the processes in relation to declarative memory and procedural memory. Given the relative infancy of SLA research compared to other fields, some attempts have been made to provide an integrative overview of the implicit and explicit learning process and mechanisms involved. Although the section takes the cognitive approach to L2 learning, it accepts the importance of social context in both L1 and L2 acquisition. All knowledge including vocabulary knowledge is the result of learners' interaction with the social context, and L2 learners gain from specific external learning conditions, for example modified input, feedback, recast and error correction.

Instructional input was explored to explain the differences between implicit and explicit learning and how instructors can use the information on the various treatment types to raise L2 learners' attention and awareness during instruction. There was also an effort to distinguish between acquisition and learning as defined by Krashen's monitor theory. Input processing is the link between both internal and external mechanisms, and it accords a place for word meaning in the sense that learners process meaning before attending to grammar forms. With the mental lexicon being a limited processor, the usefulness of highlighting vocabulary during instruction is made all the more worthwhile. This information is important for vocabulary researchers who are interested in using data processed at the declarative and procedural stage. The fonf and fonfs treatment

activities were explained alongside processing input to contrast the similarities and differences between the input and output feedback practices. Fonf treatment is necessary for providing attentional awareness and in-depth understanding. It is therefore necessary to determine the aims of learning before including implicit and explicit instructional activities and form focused instruction.

Explicit Vocabulary Instruction

Presently, the concern among vocabulary researchers is that the findings from L2 vocabulary research are being sidelined in mainstream linguistics and the language classroom. In addition, the L2 learners are disadvantaged because of their limited vocabulary knowledge and lack of opportunity to increase it within formal contexts. Much of the blame could be placed on the current default position where vocabulary is seen as best learned from context. Vocabulary researchers (Tozcu & Coady, 2004, Nation, 2001, Schmitt, 2000) state that comprehensible input is insufficient for L2 vocabulary learning to take place, and L2 learners need help with their most frequent words in the target language. Vocabulary researchers (Schmitt, 2000; Henriksen, 1999; Laufer, 2006) have repeatedly found that the L2 learner's vocabulary knowledge is limited, often imprecise and patchy. Liu and Shaw (2002) explain that L2 learners avoid using difficult words such as compound words and collocations because they are unsure of their vocabulary ability. Unfortunately, instructors are not able to identify these errors because learners do not use them in their productive word use. Danesi (1998, 2000) insists that both linguists and methodologist have not been able to get L2

learners to come out of their textbook literalness and use words automatically. Verspoor and Lowie (2002) draw from Lakoff and Johnson (1986) and call for instructors to explicitly address core and peripheral meanings in order to get learners to understand and use words independently. Laufer (2005, 2006) insists that, like grammar, vocabulary must be addressed through focus on forms (fonfs) activities and focus on form (fonf) activities.

Then again, psycholinguistic studies (Van Patten, 1996; Benati, 2006) that have looked at gains in grammatical knowledge have show that L2 learners demonstrate greater gains when subjected to interactions that involve input practice. In trying to argue for a vocabulary syllabus that will explicitly address vocabulary instruction, this section will first discuss the limitations of existing vocabulary learning conditions and the need for form focused instruction for developing vocabulary size and in-depth knowledge. It will then go on to explain the content and context for teaching vocabulary before concluding with vocabulary measures.

Vocabulary Through Context

Vocabulary is often seen as "... best acquired in purely meaning focused instruction" (Doughty & Williams, 1998) and a large part of this assumption originates from Krashen's position on natural learning where vocabulary is acquired incidentally through reading and comprehensible input. While, reading undoubtedly facilitates learning, an increasing number of vocabulary researchers studies have stated that it is not possible to assume that words will be remembered following an encounter, and the

word must appear a number of times within a specific span before it can be remembered. Then again, the likelihood of the unfamiliar word appearing quickly is dependent upon the value of the word in that context, and thus learners are at risk of losing their partial vocabulary. As Laufer (2005) states, very few words are retained following a communicative activity, and the paucity of vocabulary can result in the learner losing what had been learned. Laufer and Yano (2001) investigated how accurately learners from three different countries were able to assess their understanding of words in text context. The findings revealed that L2 learners often overestimated their understanding of words, often by over 60%. In other words, learners themselves are unaware of their limitations. Learners in the study who understood the overall meaning did not pay attention to precise meanings of words. Laufer (1988) explained that L2 students often ignore unfamiliar words because they mistake them for other more familiar words (e.g. comprehensive and comprehensible) or are confused by the “deceptively transparent words” (e.g. homonyms). This is partially due to their imprecise word knowledge.

Guessing Through Context

The strong link between the word and context distracts learners' attention from what should be the focus in vocabulary acquisition (Mondria & Wit de Boer, 1991) and redundancy contributes to reduced attention to noticing. According to Mondria (1996), students often find it difficult to notice words and guess the meanings as well, especially when students are in a hurry to get to the overall meaning. When a word is noticed as unfamiliar, the learner tries to infer its meaning from context or tries to guess. Yet not

all context are capable of providing sufficient clues. Laufer (2003) described a sentence “*People were drinking, singing, laughing, brawling,*” where most L2 learners in her study were found to have interpreted “*brawling*” as “*having a good time.*” Sometimes clues are ignored when the reader assumed that he or she has understood the meaning. In the sentence “*This shows how tenuous the relationship between fathers and sons is, for it can be destroyed by society,*” and the word “*tenuous*” was interpreted as “*strong*” even though the clause “*for ... society*” was a great clue for correct meaning (Laufer and Sim, 1985). In terms of greater awareness of word meaning, Verspoor & Lowie (2003) state that words often have several senses, which further complicates noticing and guessing. Hirsh & Nation (1992) viewed this from the point of insufficient lexical coverage. Learners whose lexical coverage was below 98% in their study often found it difficult to infer the meaning of unknown words from context.

Guessing and Retention

Extensive reading for meaning does not directly translate into word knowledge. Much depends on the context surrounding it, the nature of the learner’s attention, and task demands (Laufer, 2003). One way of using context effectively in instruction would be to ask the learners to guess explicitly the meaning of the word in context. Advocates of the guessing method (Dupuy and Krashen, 1993) argue that inferencing leads to better retention of vocabulary than learning words in isolation because increased mental effort has a positive effect on retention. However, Mondria and Wit de-Boer (1991), who compared the giving method (providing explicit answers) and the guessing method

within context, concluded that learning words with the aid of the guessing method did not lead to better retention. In formal classroom context, attention is clearly related to purpose, which in turn is governed by the task demands. Therefore, learners benefit from being made to notice, explore and understand certain words in relation to other words or linguistic forms. Parry's (1997) study on students who kept records of unknown words revealed that students' guesses from academic texts can be enhanced through context, provided students understood what they were looking for, and knew how to apply appropriate learning strategies. In the study of direct vocabulary instruction, Lawson and Hogben (1996) concluded that students rely far more on the target words and definitions than they do on the contextual clues. Therefore, guessing through context can in fact obscure meaning when learners are not sure of what they are looking for. To increase their lexical ability, L2 learners need vocabulary learning strategies that will help them discover new meanings that can be related to what they already know. Learners must also be able to consolidate such information into their existing mental network. In fact, the highest scoring learners in Hogben's study often used a broader range of learning strategies compared to the others.

Learning Words Through Reading

In terms of actual words learned while reading, experiments involving a relatively short text (7000 words) reported small gains of 1-5 words per text (Day, Omura & Hiramatsu, 1991; Hulstijn, 1992; Paribakht & Wesche, 1997; Zahar et. al, 2001). Slightly higher gains (six words per text) were reported by Dupuy and Krashen (1994).

In Cho and Krashen (1994) the subject who engaged in pleasure reading without using a dictionary learned seven words from a booklet of 7,000 words.

In reading supplemented with another activity, Paribakht and Wesche (1997) compared L2 learners in a reading condition and a “reading plus” vocabulary instruction condition. The reading plus group acquired significantly more words than the reading only group. Similarly, Luppescu and Day (1993) found that students who read a text and looked up unknown words in a dictionary recollected them better than students who did not use a dictionary. Laufer (2003) compared vocabulary learning through reading with vocabulary learning through productive activities. This involved learners having to a) read a text and look up words in a dictionary (if required) and b) read a text and complete a sentence completion task. The pretest –posttest scores indicated that words which are practiced in a productive word focused task have a better chance of being recollected compared to words that are encountered in a text or looked up in a dictionary.

Increasing Word and Depth Awareness

As Hulstijn (2000) states “... processing new lexical information more elaborately will lead to higher retention than by processing new lexical information less elaborately” (p.270). Boers (2000) showed that cognitive insights, noticing and attention especially in term of metaphor awareness promote better understanding of figurative expressions and in- depth word meanings. With vocabulary knowledge being multidimensional, L2 learners often encounter difficulties when trying to understand peripheral meanings which appear simple and yet misleading. Verspoor & Lowie (2003) explained that by

getting learners to understand the core meaning, learners acquired strategies for in-depth understanding of the word form which is applicable in different contexts.

Bensoussan and Laufer's (1984) study, which assessed the comprehension of words, where learners were asked to guess the meaning of various words in sentence context, found that L2 learners performed far worse on guessing the meaning of polysemous words than on guessing the meanings. The results become more significant when considered alongside Schmitt's (1998) finding which demonstrated that even advanced learners (university students) seldom know all the meanings of a polysemous words. Liu & Shaw's (2001) contrastive corpus analysis of L1 and L2 uses of high frequency verbs in university dissertations, revealed that L2 speakers rarely use compounds in word use and this could be related to their lack of collocational knowledge. This causes L2 learners to avoid using complex structures because they are not able to control the process actively. Verspoor and Lowie's (2003) study attempted to get learners to guess the meaning of figurative words through a core sense, and when the learners had the opportunity to elaborate and incorporate the figurative sense into their semantic network, it was easier for them to recall the words. It was obvious that elaboration is important for the second stage of vocabulary acquisition, which involves consolidation, rule formation, retention and fluency.

Implicit and Explicit Vocabulary Instruction

As explained in the beginning of this chapter, the current trend in SLA research is to focus on explicit rule presentation, manipulated input and feedback, rather than actual

practice that contextualizes them (Sanz, 2006). Within classroom context, vocabulary practice is associated with reading and memorizing sentences (Robinson, 1996, 1997) or extensive reading where learners are incidentally exposed to target forms. The former is seen as implicit and the latter is considered explicit. The individual practices can be construed as form practices and, depending on whether the instructor expects the learner to produce the target form or just comprehend it, it can be construed as input or output practice. Presently both input and output practice require learners to interact with the target form in the input and to respond to the information either explicitly or implicitly. If the learner listens to the word and uses it later in context, it is seen as implicit instruction, but if the learner interacts with the instructor through questions and responses and produces the target form, it is considered explicit instruction. This includes explanations involving attention to grammar forms and elaboration on meanings in terms of core vocabulary and peripheral meaning. Writing out the exact word form is also construed as explicit instructional practice. Reading for comprehension and referring to the dictionary are considered more implicit than a filling in the blank exercise with words from the reading (Laufer, 2003). Practice can also be task essential. Task essentialness as defined by Loschky and Bley Vroman (1993, p. 132) is "... the most extreme demand a task can place on a structure" where the task cannot be performed successfully unless the structure is used, and this is often discussed through form activities. So, any task that deliberately focuses on the form and word is explicit while free writing activities are implicit. Paribakht and Wesche (1997) state that, although reading for meaning appears to produce significant results, "...reading

supplemented with specific vocabulary exercises produces greater gains for the targeted words” (p.170). So, reading is treated as part of input processing that exists in both implicit and explicit instructional conditions. Similarly, instructor effectiveness, learner aptitude, and proficiency level, which all have an effect on the learning level, will not be seen as the focus; the focus will be only on the task. The explicit tasks must assure the learners do what they need to do in order to develop their vocabulary knowledge, and this includes looking at words that are of a global nature and calling attention to words of particular instructional interests.

Form Focused Instruction (FFI)

In terms of explicit pedagogical practices, Laufer (2003) and Hill & Laufer (2003) used form focused instructional treatment activities alongside meaningful activities to explain the importance of fonfs and fonf approaches. The researchers compared three studies on fonf and fonfs instructions. The first study compared reading comprehension with sentence writing. The first group (fonf) encountered words in a text, and the words were glossed in the margin. The second group (fonfs) were given a list of ten target words with explanations and translations of the meaning, and they had to write out the sentences. The fonfs group acquired a mean average of 69 in the immediate posttest and 21.4 for the delayed posttest compared to the fonf group which acquired 19.3 and 4.4 for their immediate and delayed posttest scores. The second study investigated reading comprehension gains of L2 learners in Hong Kong. Target words were highlighted on a screen and learners were permitted to look up the words from an electronic dictionary.

In the fonf condition, learners were required to answer a comprehension question, while in the fonfs condition, learners had to select the meaning of the task from four given options. The subjects were required to provide both L1 translations as well as L2 synonyms, and the tasks were timed. The fonfs condition recorded a mean of 66 and 41.6 while the fonf condition recorded 42 and 29.4 for the immediate and delayed posttest. Hill & Laufer (2003) compared both word selection and fill-in exercises for both fonf and fonfs groups for L2 words. Subjects in the fonf condition were permitted to look up unknown words in a dictionary while reading and then sit for a comprehension test. The subjects in the fonfs group did not read the text but received a list of L2 target words with their translations and meanings. They were then subjected to two vocabulary tasks. Upon completion of the tasks, the subjects were given an unexpected test. At the end of the study, it was the fonfs condition that was superior. In terms of writing, Folse (2006) compared two groups of students. One group was made to engage in brief free-writing activities using a specific set of target words, and the other group was required to engage in completion exercises where they had to write out the accurate word forms. At the end, both groups were required to take a test, and the group that wrote out the words performed better causing Folse (2006) to conclude that fill-in-the-blank vocabulary activities are superior to any free writing activity when time is a constraint.

Academic Vocabulary – The Way Forward

A number of researchers have examined academic vocabulary in terms of notions and functions. Martin (1976) classified academic vocabulary into a) research process,

b) vocabulary analysis, and c) vocabulary evaluation. Meyer (1990) suggested that there is a process of delexicalisation or grammaticisation going on in English where words that carry full lexical meanings are becoming like function words. For learners studying English at academic institutions, providing word lists of academic vocabulary to help in planning and assessing learning is helpful. Since academic vocabulary is useful for both speaking and writing, learners would need the opportunity to use it in meaning focused academic contexts. Productive use of academic vocabulary is an important component of academic success. As such, the word list can be introduced through sentence completion tasks and collocation tasks. Being able to know the various senses and accessing the words quickly is important since that means more processing time for concentrating on what and how to say and write. Fluency can be encouraged through output practices and rich lexical activities. Knowing the first 2000 high frequency words will give learners access to 90% coverage of the running words in most authentic texts, and when this is supplemented by proper nouns and technical vocabulary, learners will be able to approach the critical 95% threshold required for reading. For native speakers, knowledge of academic vocabulary would serve as a sign that they have been involved in academic study of various kinds, and it becomes a part of their experience. However, for L2 learners who do not know the academic vocabulary, it is an important for them to have control over their content vocabulary, and for those who have some knowledge of academic vocabulary, this control will help broaden their knowledge and word use.

Content of Academic Vocabulary

One area of research vocabulary knowledge is breadth or size. The 2000 most frequent word families in English together with the academic wordlist comprising 570 word families are said to cover 92% of spoken language and 84% of newspaper language (Nation, 2001). For a reasonable comprehension of a text, the learner would need to understand about 98% of its vocabulary, indicating that more than 2,500 word families should be familiar to the learner. Laufer (1992) suggests 5,000 word families while Hazenberg and Hulstijn (1996) suggest about 10,000 lexical items in Dutch. The more words learners know, the greater the number of low frequency words they know, and they will not have much difficulty with guessing from context. According to Nation (2001), when learners have mastered the 2,000 – 30000 words of general usefulness in English, it would be wise to direct vocabulary learning to academic vocabulary. Academic vocabulary is also known as “sub-technical vocabulary” (Anderson, 1980), “semi-technical vocabulary” (Farell, 1990) and “academic vocabulary” (Coxhead, 2000) and typical academic vocabulary lists include words like *accumulate*, *achieve*, *compound*, *complex* and *proportion*. A number of studies have investigated the vocabulary needed for academic studies. Champion and Elley (1971) and Praninskas (1972) looked up words from a range of academic texts and disciplines to determine words that were not in the general service list (GSL). Two other studies (Lyn, 1973; Ghadessy, 1979) looked at translated words in the academic text, and the four lists were combined into the University Word List (UWL) by Xue and Nation (1984) and Nation(1990). The University Word List was replaced by the Academic Word List

(AWL) (Coxhead, 1998). This AWL consists of 570 word families based on a 3,500,000 token corpus of academic English which is divided into four groupings namely Arts, Science, Law and Commerce. Both range and frequency were used for choosing the words with all word families in the list occurring at least 100 times in the corpus.

Context of Academic Vocabulary

There are a number of reasons for making academic vocabulary the learning goal of the adult L2 language classroom. Academic vocabulary is common across a wide range of academic texts, but it is not so common in non-academic texts. Sutarsyah, Nation and Kennedy (1994) found that academic vocabulary accounts for 8.4% of the words found in the LOB and Wellington corpora and 8.7% of the words found in economics texts. Coxhead (1998) found that her academic word list covered 10% of the tokens in her 3,500,000 running words of the academic corpus and around 8.5% of an independent corpus. These are substantial percentages given that the third 1,000 word list covers only around 4.3% of the same corpus. In addition, the academic vocabulary is generally not as well known as technical vocabulary. Cohen et. al (1988) identified that the academic words are sometimes used with a technical meaning and sometimes not, and learners are often unaware of that. In addition, learners are often not aware of related terms being used to infer to the same thing and, as such, are unable to pick up instances of lexical cohesion through paraphrase. Anderson (1980) found that subtechnical terms were the words most identified as unknown by her learners in academic texts. Nation

(2001) stated that many learners get low scores on the University Word List section of the Vocabulary Levels Test.

Context of Word Use

It is widely acknowledged that writings of L2 learners tend to demonstrate less variation and sophistication in terms of vocabulary use than that of L1 speaking peers (Hyland in Matsuda, 2005). The learners' L1 is assumed to play a greater role in the L2 vocabulary knowledge of lower proficiency learners, resulting in a controlled form of word use since these learners often rely on their L1 concepts and meanings. However, at the very advanced level, it can become difficult to distinguish non-native writings from native writings as Waller (1993) discovered among Finnish and American university students' works. This speaks well for the learners' final attainment. Being able to measure learners' access to word use across writing will be useful in terms of teaching about learners' strengths and weaknesses when using high frequency words. In this matter, Laufer and Nation's (1995) study with the LFP measure revealed that different levels of proficiency can be identified on the basis of lexical statistics, and some increase in the lexical quality of students' writing can be measured after an extended period of study. This raises the question of how large a role vocabulary ability plays in determining the overall quality of learner writing. This has been investigated through studies that looked at holistic ratings of the writings with the scores on the vocabulary tests (Muncie, 2002; Cobb & Horst, 2002). Laufer and Nation (1995) state that it: a) is a reliable and valid measure of lexical use in writing, b) discriminates between learners at

different proficiency levels, c) correlates with an independent measure of vocabulary knowledge, d) is a useful diagnostic test, and e) is a sensitive research tool. However, as Read (2000) cautions, it is difficult to know what the contribution of vocabulary ability is, compared to other aspects of language knowledge and ability, unless the learners are given a whole battery of tests and the relationships systematically investigated. At this juncture, it would be useful to compare the results of the LFP in relation to other vocabulary measures of size and depth in order to obtain a more accurate explanation for learner differences within and between groups.

Context and Interaction

Academic vocabulary happens to be the kind of specialized vocabulary that language teachers can help learners with. It is different from technical vocabulary which requires specialized knowledge in that both L1 and L2 learners benefit from attention to such forms. An academic vocabulary list represents an extension of the general service vocabulary and is suitable for learners' taking up academic courses. The words in the AWL comprise words that are similar across disciplines, but the meanings vary. For example, *fast* can mean "resistant to" as in medicine, "a hard stratum under poorly consolidated ground" as in mining, and "said of colors not affected by light, heat or damp" as used in paint technology (Nation, 2001, p. 191). Learners will therefore need to attend to core meanings as well as peripheral meanings during practice, and this will provide the in-depth vocabulary knowledge and enable learners to attend to higher levels of understanding in terms of knowledge and performance.

In terms of the classroom atmosphere, L1 will be able to provide insights into the word forms and meaning links and also show how the words are used in actual word use through baseline input. More proficient L2 learners will be able to collaborate with less proficient L2 learners in the immersion settings and together construct meaning. The form focused instructional practices and explicit intervention can help learners with noticing, awareness and further understanding, which will promote greater learning and performance.

Test Designs

Measurements are widely used within L2 research to provide empirical evidence for hypotheses about the nature and development of language performance. Within vocabulary research, there exists a number of well researched, and tested vocabulary measures that can reliably and validly measure L2 learners' interlanguage vocabulary. Most of these tests have been developed based on the performance consistencies and the domain of psychological measurements (Chappelle, 1998), and as the psychological domain happens to be the domain that supports theory and practices relevant to the use of measurement in SLA research, the test designs are assumed to be valid.

The Vocabulary levels test (Nation, 1983; 1990) is a diagnostic vocabulary test for non native speakers. Meara calls it the “nearest thing we have to a standard test in vocabulary” (1996, p. 38). The test consist of five parts representing five levels of word frequency in English: the first 2000 words, 3000 words, 5000 words, the University

Level (beyond 5000 words) and 10,000 words. The levels are defined by reference to the word frequency data made available through the Thorndike and Lorge (1944) list, the General Service List (West, 1953) and Kucera and Francis (1967) and the University Word List (Xue and Nation, 1998). Each level is intended to relate to specific vocabulary learning objectives. According to Nation (1990), the 2000 and the 3000 word levels contain the high frequency words that all learners need to know in order to function effectively in English. The 5000 word level represents the upper limits of general high frequency vocabulary that is worth spending time on in class. Words at the University level should help students in reading their textbooks and other academic reading material. Finally, the 10,000 word level covers the more common lower frequency words of the language. The test in itself is a word matching exercise, and it has been tested for reliability and validity by Beglar and Hunt (1999).

The active version of the Levels test was developed by Laufer and Nation (1995). Laufer (1998) describes the blank filling version of the test as a measure of “active” or “productive” vocabulary knowledge. It has the same overall structure as the VLT and the same target words. However, instead of matching words and definitions, the test takers are presented with a set of sentences including a blank, and learners are required to write the missing target word. A variable number of initial letters are provided for each blank in an attempt to ensure that only the target word correctly fits. Laufer and Nation (1999) used this blank-filling version to provide evidence for the validity of their Lexical Frequency Profile (LFP) which is a comprehensive measure of the range of vocabulary

used in learners written compositions. The limitation of the blank-filling test is that some of the words require more word knowledge and greater use of contextual information (Read, 2000). Laufer and Nation (1999) insist that learners at higher levels of proficiency obtain significantly better scores than lower proficiency learners. In addition, the blank filling version is associated with the ability to use vocabulary in writing, and Laufer and Nation (1999) state that the blank-filling test scores can be interpreted in terms of the approximate number of words at a particular frequency level which are available for productive use (1999, p.41).

The Lexical Frequency Profile as a measure devised by Nation and Laufer (1995) overcomes the various calculations of the conventional statistical measures. The LFP is based on the relative frequency of words in the language and involves simply calculating the percentage of word families in the learner's composition that belong to each of the three or four frequency bands. So, if a learner wrote an essay containing 200 word families in total, and these consisted of 150 words from the first 1000 list, 20 from the second 1000 list, 20 from the University Word List, and 10 other words from *Not-in-the-list*, then the profile would be 75%-10%-10%-5%. Laufer (2003) argues that it provides a more objective and differentiated measure of the learner's vocabulary use than other statistics.

The Depth of Vocabulary Knowledge Test was developed by Qian and Schedl (2004) with a team of TOEFL test developers at the Educational Testing Service and is based on

the format of the word associates test (Read, 1993, 1998). The word associate test is intended to assess the concept of depth of knowledge and is based on three word relationships which are as follows:

- Paradigmatic – the two words are synonyms or at least similar in meaning with one being more general than the other e.g. *edit- revise; adjust-modify*
- Syntagmatic – the two words occur together in a phrase or collocate e.g. *edit-film, abstract –concept*
- Analytic – the associate represents one aspect or component of the target and is likely to form part of its dictionary definition: e.g. *team-together, edit-publishing.*

The DVK measures two aspects of depth of vocabulary knowledge : a) word meaning, particularly polysemy and synonymy, and b) word collocation. The words were taken from the Barnard Second and Third Thousand Word Lists (Nation, 1986) and each stimulus word has more than one meaning and a range of uses. The word association test format is useful because it focuses on high frequency words that the learners are expected to have acquired to some extent and ones that learners need to know well. In addition, it is designed to produce verifiable evidence of how well the test takers know the target word. It involves a recognition task, where test takers select responses rather than recall them from memory.

Assessing Lexical Density

The vocabulary content of the essays and the speech that learners produce as part of the output practice is considered as part of the output as well. The written production

can be transcribed and the words calculated using the various statistics that reflect their use of key vocabulary forms. However, when explaining the performance, the researcher must account for whether the measures provided consistent results when applied to two interactions by the same learner in different output practices (Laufer and Nation, 1995) and if the output and explicit feedbacks of the students compared with those of native speakers of a similar age or education level (Linnarud, 1986). In addition, it should consider the relationship between the lexical statistics and holistic ratings of the quality of the learners' compositions (Linnarud, 1986; Engber, 1995). Within writing, it is necessary to look at the relationship between the lexical quality of learners' writing and their vocabulary knowledge, as measured by the discrete point vocabulary tests (Laufer and Nation, 1995). Most of all, it would be most useful to demonstrate that the lexical quality of the adult L2 learners increased after a semester of study (Laufer, 1991; 1994).

Assessing Validity

One aspect of validity in any writing measure is the nature of the task. Tasks vary in the demands they make on the learners' vocabulary resources. If the task is intended to elicit a fluent sample of writing under test conditions without advance preparations, it would make sense to set a specific topic, but if the researcher is interested in a task that poses lexical challenges for the learners in terms of how well the learner is able to express information and ideas without knowing the appropriate terms, then there can be a degree of flexibility in the choice of the topic. Linnarud (1986) suggests that there should

be some level of uniformity in the content, so that a comparison could be made within and between groups and also stimulate the imagination of writers with a low creative ability. Thus, any research involving writing activities should exercise caution when interpreting the results, especially when comparisons have to be made between compositions written in response to different topics or tasks.

In terms of assessing lexical richness, good writings would demonstrate the following features: More proficient writers will have a larger vocabulary knowledge that enables them to avoid repetition by using synonyms, superordinates and other kinds of related words. A high figure would indicate that the text contained a wide range of different words, while a low number would indicate that the writer relied on a small stock of words that are frequently repeated. There would also be a selection of low frequency words that would be appropriate to the topic and style of writing.

Discussion

The LFP measure claims to overcome various shortcomings of conventional lexical statistics. Being based on the relative frequency of words used in learners' compositions, it is capable of identifying the frequent and less frequently used words of both L1 and L2 learners. Nevertheless, as stated by Engber (1995), no matter how detailed a statistical analysis may be, subjective judgments are required and highly desirable in this kind of study. In addition, it must also be noted that minor spelling errors can place a word in another category, and they may end up with the same weight as word choices which make a sentence difficult to interpret (Read, 2000).

In terms of interpreting the results of written performance, it is possible to expect that the writings of learners will show less variation and sophistication compared to L1 speakers' performances. Then again, there is also a general sentiment that syntactic knowledge is more significant than vocabulary size in predicting test and comprehension task performance (Shiotsu & Weir, 2007), and at this juncture, it must be noted that research on vocabulary ability is not meant as a competition between vocabulary, grammar and functions for the same piece, but it is meant rather as a reconsideration of how these essential elements fit together to result in better language teaching and instruction.

Concluding Summary

In essence, this section brought together the various concerns for vocabulary ability in terms of content and context for teaching vocabulary and learning. The various test designs were discussed to provide insights into their usefulness in terms of measuring size, depth and word use. In addition, the need for comparing actual writing in relation to specialized word use and lexical density was also addressed to show that statistical analysis might not provide all the answers to understand vocabulary knowledge and performance. Considering the usefulness of these test instruments and future research designs, present methods and/or designs may need to be re-examined, restructured or used as is. Nevertheless, any study that aims to examine word use in relation to types of writings and assignments would need to interpret the results in relation to the context in which they appeared.

Overall, this chapter had included significant research pertaining to the topic of vocabulary knowledge, acquisition, instruction and assessment. The studies further stressed the importance of providing explicit and form focused vocabulary instruction in the language classroom regardless of whether input or output facilitates language development.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

Introduction

Chapter 2 has presented a review of the relevant research literature concerning second language vocabulary studies and form focused instruction. The literature has discussed vocabulary knowledge, L2 vocabulary acquisition processes, related acquisition models, instructional approaches that include the various forms of implicit and explicit learning practices and explored the areas of overlap in the behaviorist, interactionist and trait perspectives of interlanguage vocabulary. It has also examined the findings from L2 vocabulary testing research that insist that, similar to grammar, comprehensible input alone is insufficient for the L2 vocabulary acquisition process, and explicit instruction is necessary for L2 learners' vocabulary development. Most L2 learners simply do not have the necessary vocabulary knowledge to help them guess and infer from context. In relation to threshold vocabulary knowledge, L2 learners need the first two thousand most frequent words of the English language and a sufficient number of academic word knowledge to comprehend and participate satisfactorily in academic discourse. Then again, knowing a large number of words does not automatically lead to proficient word use. Rather, L2 learners require both breadth and depth of word knowledge in order to be fluent in the language. Fluency includes knowing the various senses of the word, being able to make appropriate word associations and possessing

near native collocability¹. Performance of this nature requires attention to meaning, awareness of the forms and word senses and practice through pushed output. In this matter, explicit rule presentation combined with practice can bring about a positive effect on L2 learners' lexical ability, especially when the practice is able to influence the learning process. These processes will help L2 learners acquire lexical competence and performance skills more efficiently.

Research suggests that it is possible to understand the L2 learner's internal vocabulary learning process by manipulating instructional conditions that affect learning. By measuring the changes in learner's knowledge through a pretest and posttest measure, it would be possible to determine whether a particular activity had an immediate, delayed or positive effect on the learning process. Such initiatives can provide information about the differences between proficient and less proficient L2 learners' vocabulary ability as well. Presently, learning conditions have been effectively addressed within psycholinguistic studies, but within pedagogy, L2 vocabulary research that investigates implicit and explicit conditions is limited in relations studies, duration and scope. Also, criterion measures (i.e., that use standardized test measures) have appeared constrained and artificial from the views of applied linguists and language teachers, but these measures have repeatedly met the methodological requirements identified in psychological studies. In addition, these measures have been used as evidence for pure implicit/explicit learning conditions as well as pure measures of implicit/explicit knowledge. Therefore, criterion measures should be seen as tools for

¹ Knowing the various paradigmatic and syntagmatic relations

realistic experiments that measure actual classroom practices, especially when a larger fragment of the language is involved. The time may have come for SLA to look to vocabulary testing researchers for more realistic measures for understanding the effectiveness of L2 instructional conditions and vocabulary learning.

Presently, there is increasing awareness within SLA and vocabulary testing research, that a theoretical justification is needed for introducing a more lexically based teaching technique. However, any rationale for such needs has to be based on evidence that indicates L2 users of the language do in fact have different kinds of lexical knowledge than L1 speakers (Liu and Shaw, 2002). The present study aims to fill that gap by investigating the effects of two types of instructional conditions (explicit and implicit instruction), both of which happen to be widely used within the language classroom. In this study, the term “development” is used in relation to the incremental process of vocabulary knowledge as described by the four dimensions trait views of vocabulary knowledge. Knowing the “vocabulary” means knowing the various subcategories of words as well. “Acquisition” is identified as the process beginning with input and culminating with the integration of new linguistic data into an existing system. This includes both the internal and external mechanisms that affect learning. Output is the manifestation of the newly integrated or acquired knowledge (Gass, 1988, 1998).

Chapter 3 includes discussion of the research design and methodology used in this study. The conceptual framework is presented followed by the research questions that were generated based on previous research studies and theories as discussed in chapter 2. The following sections describe the subjects as well as their backgrounds concerning

demographics and language learning experience, the data collection procedures and data analysis procedures. The methodology for the statistical and qualitative analyses is also explained.

Conceptual Framework

Three basic concepts comprise the conceptual framework of the study. The concepts were made evident from the review of the literature on vocabulary knowledge, acquisition, instruction and assessment.

Implicit and Explicit Instruction

First, both implicit and explicit teaching are effective for learning L2 vocabulary. However, the effectiveness is dependent on the level of abstractness of the word meaning. While learners in both instructional conditions are capable of understanding concrete word forms and meanings, abstract word meanings can be difficult. For example, the word *launch* is often used in the physical sense of launching a spaceship and this sense is easily understood. However, few students will realize that the word *launch* can include: a) take an interest in, b) introduce or start, and c) plunge (e.g. *launch forth*, *launch a perfume*, *launched into*) or that historically the word *launch* was metonymically related to wielding a lance, which over time has been generalized to mean throwing any object with force. In other words, learners benefit from being made to notice the various senses of the form meaning links and senses and from being made to practice these forms in productive language use.

Threshold Vocabulary

Second, in order to use words well, learners must have a sufficient amount of threshold vocabulary knowledge. By knowing the first 2000 most frequent words of the English language and the 570 words of the Coxhead Academic Wordlist (henceforth AWL), L2 learners will be able to acquire a satisfactory level of threshold vocabulary knowledge. These words will enable the learners to recognize unfamiliar words in their academic discourse more easily, and free up mental space that can be used for higher thinking skills. Proficient L2 learners who already possess this threshold vocabulary knowledge will be able to benefit from both implicit and explicit instruction, but learners who lack the necessary threshold vocabulary will not make much progress in relation to increasing their lexical ability because they would spend more time decoding the word meanings and less time on higher thinking skills.

Qualitative Differences Within Instruction Practices

Third, there is a qualitative difference among the various types of elaborations used during instruction, ranging from semantically unrelated elaborations to strongly semantically related elaborations. While any elaboration by the teacher is better than no elaboration, the strongest effect is obtained through “precise elaboration” such as form focused instruction. In this matter, different usages of a word may require different levels of elaboration. For example, the word *black* can occur with different senses as the following paragraph indicates:

(1) Some may *blackly* (angrily) accuse me of trying to *blacken* (defame) the English Language, to give it a *black* eye (a mark of shame) by writing such *black* words (hostile).

(2) They may *denigrate* (to darken) me by accusing me of being *blackhearted* (malevolent), of having a *black* outlook (pessimistic, dismal) on life ... (3) this is of course a *white lie* (not intended to cause harm). (Ore, 2006, p.474)

In sentence 1, *black* is used as an adverb, a verb and an adjective. The meanings can be explained based on their semantic relationships or through context. However, such form meaning connections merely help with the level of noticing. For learning to take place, it is more important that learners develop some level of understanding for the word *black* in relation to its literal and underlying meanings. As the word *black* happens to be a high frequency word, learners benefit from the various elaborations, which help reinforce their understanding of the word meanings in relation to the word it appears with. Learners also benefit when the words are elaborated on the core and peripheral meanings. Such knowledge helps develop greater awareness and understanding of the various senses of the word including its syntagmatic and paradigmatic relations. Sentence 2 uses the word *black* in relation to imaginary acts of belittling and disparaging and learners need to know the relationship between the words *blacken*, *denigrate* and *darken*. Learners also benefit from being told that *white lie* in (3) happens to be an idiomatic expression and that there is no such word as a *black lie* [*sic*]. Elaborations of this nature help learners realize how words take on different meanings when used in relation with other words. Such information enables learners to explore

the richness of the language as well as gain confidence when using compound words and collocation.

Research Design

In order to investigate the research questions for this study, a quasi-experimental design was chosen. This is in part due to the fact that it is not possible to randomly assign subjects to treatments and control conditions in actual classroom and university settings. Nevertheless, quasi-experimental designs are defined as being similar to experimental designs in that the purpose of the method is to determine a cause and effect relationship, and that a direct manipulation of conditions is involved (McMillan & Schumacher, 1997). As Johnson (1992) explains, it is important in experimental studies that the approach used is suitable for its purpose (p.171). The study used intact classes, where the subjects followed the instructors who were randomly selected from an existing pool of teaching assistants who had volunteered to participate in the study. Six freshman English composition classes (ENG 101, 102, 107 & 10-8) were used in the study. The classes were already organized based on students' self selected registration, and it was not possible to determine the specific L1 of the subjects. These classes were designated to the instructors, but every attempt was made to ensure that teachers were teaching both L1 and L2 students for the entire semester.

The study had a mixed design and included both quantitative as well as qualitative data. Based on the number of subjects used in the study (n=129), the

researcher had decided to investigate some aspects of the learners' existing vocabulary learning strategies in order to determine whether the subjects were self regulated learners. A questionnaire on vocabulary learning strategies was given to all the participants on the first day of the class. The questionnaire is adapted from the list compiled by Schmitt (1997) and Catalan's (2003) taxonomy of vocabulary strategies. There were several advantages to using the specific questionnaire (Appendix A). It could be used to collect answers easily. It is based on the theory of learning strategies as well as on theories of memory. It was simple and allows for easy classification. It is rich and sensitive to the variety of learning strategies. It has been compared with a number of other related vocabulary studies and been found to be valid and reliable (Catalan, 2003).

The mixed design also refers to the fact that this study uses both a pretest and posttest measure (PVLТ test) and an in-depth knowledge test (DVK-Appendix D). Since a similar vocabulary measure was taken from the same subjects at the beginning of the study (Appendix B) and at the end of the study (Appendix C), this structure qualifies as a pretest-posttest design. However, as the comparisons are also drawn between independent groups, depending on the treatment they receive, this can be called a between group design. In addition, the various groups have a number of different L2 speakers whose L1s come from a number of languages, and selected classes comprise both L1 and L2 speakers, which classifies them as within group design.

Research Questions

The research is guided by the following questions:

Research Question #1

Does vocabulary teaching lead to a gain in scores on the Productive Vocabulary Levels

Test (PVLТ):

- a) when taught implicitly?
- b) when taught explicitly?

Research question 1 was designed based on the assumption that existing L2 research that narrowly focused on the implicit – explicit instruction was limited in numbers as well as in duration. Besides, most research has been conducted within laboratory settings and has limited ecological validity in the classrooms. Implicit instruction (1a) was investigated since a number of experimental studies claim that subjects learned abstract knowledge implicitly. Explicit instruction (1b) was investigated based on literature that suggest that there is a positive role for attention to focus on form through explicit vocabulary instruction and input enhancement in the language classroom.

Research Questions #2

Do grades on the students' essays (E1, E2, E3) correlate with scores on the AWL section of the Lexical Frequency Profile?

Research question 2 was designed based on literature that suggests that learners need a threshold level of word knowledge in order to use language well. L2 learners avoid

using compound words and collocations because they are unsure of such words. Focus on form and focus on forms activities will enable learners to use more academic words and this will improve their writings.

Research Question #3

Is the gain in vocabulary scores for the treatment group greater than the gain in scores for the control group for both L1 and L2 students on the Productive Vocabulary Levels Test?

Research question 3 was based on evidence that suggests that L2 learners' lexical performance is affected by the difference between L1 and L2 learner ability and within proficient and less proficient learner ability. Any attempt to initiate a vocabulary instructional syllabus has to be based on evidence that suggests that L2 learners do indeed learn differently from L1 learners.

Research Question #4

Do scores on a test of word definition section of the DVK test correlate with scores on a test of word collocation section of the DVK test for L1 and L2 students?

Research question 4 was based on research that indicates that even advanced L2 learners have difficulties with word collocations while L1 speakers usually know as many word meanings and as they can collocate words. The question aimed to demonstrate that the

relationship between L2 learners' word meaning and word collocation is different from that of L1 learners.

Research Question #5

Is there a difference in the degree of correlation between the word definition section (dvkm) of the revised DVK test and word collocation section (dvkc) of the revised DVK test for L1 versus L2 students?

Research question 5 was formulated based on research evidence that states that providing explicit vocabulary instruction through focus on form instruction and focus on forms activities enables L2 learners to gain in depth awareness of word forms in relation to words meanings and their various senses. Such form of rich instruction enables L2 learners to gain greater confidence in terms of word use and their word collocations would be closer to L1 speakers' associations. The revised test included only the words from the task that were taught to the treatment group.

Setting

The University

The University of Arizona (a land grant university) is a research university with both a large domestic L2 and international student population (hereafter known as L2). Many of the domestic students are recent graduates from high schools around the country while the international students have graduated from pre-university and high schools from their

home countries. The L2 learners have passed their Test of English as a Foreign Language (TOEFL), but are not necessarily competent users of the English Language.

The Program

The English Department in the University conducts writing courses as part of the undergraduate course requirement every semester. The English composition courses are aimed at helping learners improve their ability to read and write at the college level. During the duration of the course, the learners learned to write for an academic audience, and this included writing as inquiry, writing to discover, create, and to communicate meaning for an intended audience. The activities included journal writings, short generative assignments, such as free writings involving keywords, peer editing and writing multiple drafts of certain essays. The major assignments often culminated in two specific essays—a rhetorical analysis (Essay 1) and a persuasive research paper (Essay 2). This was followed by a portfolio project that involved the revision of one of the essays (Essay 3), and learners were free to choose between Essay 1 and 2.

As the English writing classes used in the study were freshman English composition classes focused on building the strengths of L2 students as readers, scholars and writers and to improve their ability to read and write at the college level, the L2 students' vocabulary level can be considered to be between intermediate to high level language users. Nevertheless, a pretest measure (Appendix B) was conducted at the beginning of the study to obtain a vocabulary profile of each L1 and L2 subject.

The Classes

In Spring 2007, 173 first year English composition classes were allocated for L2 learners (Eng 102 and 108) and 25 classes for L1 speakers (Eng 101 and 107). Out of this pool, students from 6 classes were selected.

The subject pool consisted of all students registered in six first and second semester English 101/102 and 107/108 classes. The classes were comprised of three distinct groups: a) L1 speakers only (101/107), b) L2 speakers only (102/108), and c) L1 and L2 speakers (101/102 or 102/108). Only data from subjects who consented to the study and were involved in the first day of data collection were analyzed in the study. Nevertheless, all the students in each class (regardless of whether they consented) had to go through the same activities as the rest of the class because learning was meant to occur in an authentic environment and the students were therefore not informed of the test and tasks, and the features of the study were automatically incorporated into the course by the instructors. The researcher had consulted the English Department on the nature of the study and obtained permission from the instructors and human subjects protection office to have the tasks included in the general outline of the syllabi.

Recruitment Procedure

At the beginning of the semester, 140 students agreed to participate in the study, but 11 students dropped out at various stages bringing the final number to 129 students. All the students were informed by the researcher at the beginning of the study that their participation was completely voluntary and would not have any positive or negative

influence on their grades in the class. They were also informed that they could withdraw at any time from the study without having to provide any explanation. Students were informed that their information would be treated as strictly confidential and a pseudonym used when their data was discussed. Subjects permitted the researcher to look at some of the written activities that they submitted to the instructor of the course. The instructors had asked the students to submit their writings online through an online university site. The English Department had added the researcher's name to the sites as co-instructor, thus providing access to all online writings, classroom announcements, and online interactions. The subjects were informed that the researcher would be present in the classes from time to time and would listen in on their interactions during those sessions.

Instructors

The instructors who participated in the study were four graduate students employed by the English Department. They were selected because they came from the pool of instructors who had volunteered to participate in the study. The teachers were Americans, L1 speakers of American English and had masters degrees in English. Only L1 instructors were recruited in order to minimize the number of instructor variables, and it was assumed that coming from similar backgrounds, these instructors would share common instructional styles. In addition, these instructors had taught ESL learners and were teaching both L1 and L2 learners during the Spring 07 semester.

Two of the instructors (A, B) taught two classes (A1, A2) and (B1, B2) respectively. The other two instructors, C and D taught one combination class each (C12, D12) which included both L1 and L2 subjects (henceforth, 1 denotes native speakers of English and 2 denotes second language speakers of English). Three classes were identified as the control group that would be subjected to comprehensible instructional input (A2-, B1-, and C12-), where (-) indicates the control group. The remaining three classes, (A1+, B2+, and D12+), where (+) indicates the treatment group, were categorized as the treatment intervention group. The distribution of the instructors' classes and groups is as indicated in table 3.1.

Table 3 1: Group Distribution

Instructor	Group	
	Control	Treatment
A	A2-	A1+
B	B1-	B2+
C	C12-	
D		D12+
Instructors= A,B, C,D L1 students = 1	Treatment = + L2 students = 2	Control = - L1 + L2 students = 12

Participants' Background

The students were selected because one of the four volunteer instructors was teaching them. They had registered for a writing course and had been assigned to the classes. Nevertheless, all of the subjects were learning to write for an academic environment. All the subjects were able to speak and write in the English language according to varying degrees of proficiency. Some of the L2 subjects had spent a number of years in an English speaking environment and were considered fluent

speakers of the language, while others were not comfortable enough to communicate in the English language because it was their first experience within an L1 environment. A mixed range was preferred because the data of the proficient subjects could serve as evidence for investigating the process of the more complex vocabulary network, while the less proficient subjects' data could be used to understand the behavior of the simpler networking process.

The participants completed a questionnaire survey at the beginning of the semester which included information about themselves and their vocabulary learning strategies (Appendix A). The questionnaire consisted of 8 fill-in-the-blank items and 57 vocabulary learning strategies against which subjects needed to mark to indicate as having been used to learn their vocabulary. The questions were based on the subjects' a) language background, b) academic discipline, c) place of origin, d) length of stay in the United States, e) assumed level of proficiency in English, and f) preferred language for reading.

Demographics

Of the total 129 subjects, 79 (61.2%) were males and 50 (38.8%) were females. The age range were between 18 to 27 years. In terms of disciplines, 114 (88.4%) were from the sciences while 15 (11.6%) were from the humanities. The distribution of the L1 and L2 students is summarized in table 3.2.

Table 3 2: Distribution of Subjects According to L1 and L2 Learners

	Gender				Discipline			
	Male	(%)	Female	(%)	Science		Humanities	
L1	39	(60)	26	(40)	63	(96.9)	2	(3.1)
L2	40	(62.5)	24	(37.5)	51	(79.7)	13	(20.3)
Total	79	(61.2)	50	(38.8)	114	(88.4)	15	(11.6)

N=129

As for the first language, 63 (48.8%) of the students stated that their L1 was English. Chinese speakers made up the second largest group at 28 (21.7%) followed by 14 (10.9%) speakers from Europe, 11 (8.5%) from the Middle East and 10 (7.8%) Spanish speakers. In terms of preferred language for extensive reading, 79 students indicated that they preferred reading in English. This included all the L1 speakers and 14 L2 speakers. An additional 50 (78.1%) L2 students preferred to read in a language other than English or their mother tongue. The distribution for preferred language for extensive reading is summarized in table 3. 3.

Table 3 3: Language Preferred for Extensive Reading

Language	L1		L2	
	N	(%)	N	(%)
English	65	(100)	14	(21.9)
Language other than English			50	(78.1)
Total	65	100	64	100

N=129

As for place of permanent residence, all the L1 speakers were from the United States while 50% of the L2 speakers came from Asia and the Middle East. The next largest group came from Europe making up 35.9 % of the L2 population. The distribution is summarized in table 3.4.

Table 3 4: Permanent Residence

Place	L1		L2	
	N	(%)	N	(%)
US	65	(100)	6	(9.4)
Asia & Middle East			32	(50.0)
Europe			23	(35.9)
Latin America			3	(4.7)
Total	65	100	64	100

N= 129

In terms of length of stay in the United States, 56.3% of the L2 speakers indicated that they had been in the United States for less than a year. About 10.9% had been in the States for less than two years or more as indicated in table 3.5.

Table 3 5: Length of Stay in the United States

Period	L1		L2	
	N	(%)	N	(%)
Above five years	65	(100)	2	3.1
Below Five years			19	29.7
Below Two years			7	10.9
Below One year			36	56.3
Total	65	100	64	100

N=129

In terms of fluency, almost all the L1 speakers (96.9%) considered themselves to be fluent users of the language while only 37.5% of the L2 speakers considered themselves to be fluent in the language. Most of the L2 speakers (51.6%) categorized themselves as moderate users of the language and 10.9% saw themselves as beginners. The distribution is as indicated in table 3.6.

Table 3 6: Level of Fluency in the Written Language

Level	L1		L2	
	N	(%)	N	(%)
Fluent	63	96.9	24	37.5
Moderate	1	1.5	33	51.6
Beginner	1	1.5	7	10.9
Total	65	100	64	100

N=129

Aim of the Writing Course

The overall aim of the first year English Composition course at the University of Arizona is to: a) to get students to explore different issues through the readings and use them as a basis for exploring in their writings, and b) get learners to understand what was involved in academic writing, and to get the students to display this understanding through a variety of writing assignments. In terms of vocabulary learning, word meanings are addressed incidentally through context. The reading texts contain high frequency words, and the meanings are embedded and enhanced through context and general elaboration. Learners direct their attention to unfamiliar words through guessing, inferring and instructors' clarifications. Meaning is often construed in relation to the overall message of the reading. This is considered comprehensible input. While the elaborations on the vocabulary words involve noticing and guessing, there is no intentional form or forms instruction during the lessons.

Course Assignment

In terms of writings in these classes, word use was realized through explicit instruction and essay writings. During the course, the subjects submitted two essays

and one revised essay. The first essay was a rhetorical essay, the second was a reflective essay, and the third assignment was a revision exercise where students revised one of their earlier essays and submitted it with a cover letter explaining their rationale. The rubrics used by one of the instructors and the grading criteria are outlined in (1). The other instructors used a similar approach.

(1)

Rhetorical Essay

You may choose any article from the *Conversations* book for this assignment, including any one of the articles that you read or wrote about for homework. You may also choose to write a rhetorical analysis of a film, advertisement, photograph, political speech, video game or any other text. I will ask about your topic, however, before you begin. Completing the Rhetorical Analysis essay should make you feel confident about your ability to recognize and understand the different ways texts attempt to persuade readers. In addition, this type of analysis will give you the ability to think critically and analytically not only about academic texts, but also the events taking place in the world around you.

4-6 pages

Reflective Essay

You must **DO** something directly related to what you are researching and include a description of that experience, including your feelings, in the paper. (For instance, the person writing on rock climbing might go to the Rocks and Ropes gym and climb a wall there or take a beginning rock climbing class.) This is the **major** feature of this paper. The style and voice of your writing (including a strong introduction and conclusion)

Interview at least 2-3 people. Try to conduct the interviews in person, although one can be over the phone or by email. Think of one interview as being with a major player and the other with minor players. (The paper on rock climbing might have one interview with a **seasoned** rock climber and another with a student of rock climbing and third with a person who would never climb rocks.) Another option for **one** of your interviews is to conduct a 10 question survey on rock climbing given to 20 people.

Revision

For the revision project, you'll have two options for revising. For both of these options you must make significant changes in your essay. Without such changes, you cannot get full credit. Choose one of the earlier essays (either the Rhetorical Analysis Essay or the Reflective Essay) to rewrite and revise, making significant global and local revisions.

Condense your Persuasive argument into a shorter argument focused toward a particular target audience. The argument should take the form of a speech, or letter to the editor, or newspaper or magazine article. Consider what to keep and what to adjust to make it appropriate and persuasive for your new audience.

Grading Criteria

The maturity and sophistication of your ideas and clarity of your writing
 The effectiveness of your analysis
 The organization of your writing (A clear thesis and PIE structure in supporting paragraphs)
 Your grammar, spelling punctuation and ability to complete the assignment according to the specifications provided (including MLA formatting)

Task Design

In relation to task design, the researcher developed eight ten minute long vocabulary exercises that included sentence completion and word association activities. The vocabulary exercises were intended as rich lexical activities that helped learners notice, attend to and process target words and their various meanings. The vocabulary exercises used twenty adjectives taken from the 40 adjectives found in Qian and Schedl's (2004) Depth of Vocabulary Knowledge test. These words originated from the Barnard 2000 and 3000 word lists (Nation, 1986) and the target words are as indicated in (2)

(2) Target Words

<i>accurate</i>	<i>appealing</i>	<i>brief</i>	<i>celebrate</i>
<i>considerable</i>	<i>deceptive</i>	<i>essential</i>	<i>fine</i>
<i>minute</i>	<i>obscure</i>	<i>organic</i>	<i>overall</i>
<i>peak</i>	<i>perpetual</i>	<i>powerful</i>	<i>prolonged</i>
<i>remote</i>	<i>surplus</i>	<i>vivid</i>	<i>wild</i>

The vocabulary exercises were designed for a target word to appear for at least six exposures throughout the eight exercises as indicated as exposure in (3). (The actual exercises are indicated in the next section.) The words were presented according to their various senses and linguistic forms. The learners in the treatment group wrote out

the target words as completion exercises as in Part I (3) and circled another word that collocated with the target word as in Part II (4). The subjects were expected to notice and attend to word meanings through this pushed output and practice.

(3) Part I

Exposure	Context
1	She decided to purchase a number of essen _____ oils to protect her skin.
2	It must be noted that there is no character in Measure for Measure that is not essen _____ weak and therefore human.
3	It has been found that prolonged oral treatment with an essen _____ amino acid L-leucine does not affect the female reproductive functions in rats.
4	Successful athletes often understand that in order to be the best you can be, training in the mental skills associated with peak performance is essen _____.
5	Full-color illustrations show clear, vivid presentations of essen _____ concepts and common cardiac rhythms for clear and easy interpretation.

(answers: essential, essentially)

(4) Part II

5 ESSENTIAL *proposition* *nature* *manpower* *oil* *organs*

The researcher took the sentences from online academic journals, but instructors were consulted and shown the drafts ahead of time. Sometimes the instructors made some suggestions, but most of the time the vocabulary exercises (indicated in (3) and (4)) were accepted in total. The vocabulary exercises (henceforth vocabulary tasks) were given to the treatment classes after the instructors had agreed to the content. Although the instructors were aware of the vocabulary tasks, they were unaware that the words were being recycled and that subjects were required to take the posttests at the end of the study.

Implementation

In terms of implementation, six classes were involved in the study. All subjects completed the paper and pencil version of the Productive Vocabulary Levels Test (PVLТ -Version A [Appendix B]) and questionnaire on their vocabulary strategies (Appendix A) Three classes were used as the control group and three classes were used as the treatment group. The research procedure is as summarized in table 3.7.

Table 3.7: Research Procedures

First Week	Pre-Treatment Measurement Instruments (6 sections of Eng 101,102,107,108)					
Jan. 12 30 mins.	<ol style="list-style-type: none"> 1. Obtaining Consent 2. Questionnaire (demographic information, vocabulary learning strategies) 3. Pretest- PVLТ (A) –conducted by teacher 					
	Control (-)			Treatment (+)		
Instructor	A	B	C	A	B	D
Groups	A2-	B1-	C12-	A1+	B2+	D12+
10 weeks	Writing Task (Pushed output) free vocabulary writing task (7) - Teacher initiated focus on meaning (explanations in context) - Guessing meanings through context - Elaboration in context			Vocabulary Task (Pushed output) Precise vocabulary task (3) & (4) - Student initiated focus on form (fonf feedback) - Giving meanings through forms - Precise elaboration involving core and peripheral meanings.		
	Practice/ Production Teacher initiated focus on meaning Student initiated focus on form Meaningful input through context Attention to overall meaning			Practice/ Production Teacher initiated focus on form Student initiated focus on form Meaningful output Attention to form and meaning		
Last Week May 2	Posttest Measurement (All sections - conducted by respective instructor) <ol style="list-style-type: none"> 1. Depth of Vocabulary Knowledge Test (DVK) 2. Posttest – PVLТ B 3. Oral interview (rated with analytic scale) 4. In class writing samples (3 essays) 5. Multiple class observations (3 observations per class) 					

Treatment

Focus on Forms Activities - The treatment groups (Groups A1+, B2+ and D12+) were given eight ten minute long vocabulary tasks (Appendix E) over the course of the semester. The vocabulary tasks were carried out over eight sessions. The vocabulary tasks served as explicit instructional input, which required learners to notice and write out specific word forms as in (5) and associate words with another word relations as in (6). Completion exercises were selected because sentence completion activities are more effective for learning vocabulary than any in depth writing exercise, especially when time happened to be a constraint (Folse, 2006). In addition, the students were familiar with completion exercises which are widely used in tests and quizzes in the university. The word association format in (6) was selected because the patterns of association of learners were found to be remarkably consistent from one L1 speaker to another (Read, 2000), and this format was reflective of the lexical networks developed in the L1 process. It also triggered the knowledge of particular semantic aspects of the stimulus and was considered to be a useful way of measuring lexical organization (Read, 2000).

(5) Completion task

1. The more major and the more proximate a market move is, the more viv_____, consistent and accurate the remo_____ viewing of it will be.
2. Successful athletes often understand that in order to be the best you can be, training in the mental skills associated with pe_____ performance is essen_____.

(6) Word Association tasks

Circle the first words that come to your mind

- | | | | | | |
|---------------------|-------------|-------------|------------|-------------|------------|
| 1. ORGANIC | matter | union | pleasure | base | equipment |
| 2. ESSENTIAL | proposition | nature | manpower | oil | organs |
| 3. PEAK | out | hours | down | performance | steadily |
| 4. PERPETUAL | calendar | motion | friendship | health | sense |
| 5. PHYSICAL | constant | environment | challenge | education | attributes |

Focus on Form activity: Following each vocabulary task, the individual instructors involved in the treatment classes went through the responses by providing oral feedback. The explicit feedback varied in relation to quality and quantity of interaction within L1 and L2 learners and within proficient L2 and less proficient L2 learners as well. It is necessary to note that the interaction and modified input were influenced by a) baseline context (L1 subjects only), b) immersion context (L2 subjects only), and c) combination context (L1 and L2 subjects). The interaction and learner performance will be explored as part of the qualitative and quantitative data for explaining instructional effectiveness of both the focus on form and focus on forms activities.

Comprehensible Input: The classes involved in the control group wrote brief sentences using keywords and concepts for ten minutes. The words were not pre-planned, and instructors usually wrote out a number of useful words following students feedback as in (7).

(7) Free Writing Tasks

Illegal Immigration – *crack down – illegal aliens - employers – incentives*

(8) Sample Writing:

The United States needs to stop illegal immigration by cracking down on employers who hire illegal aliens. By doing this, the incentive for people to illegally come and stay here in the United States would be removed.

Students then wrote on a given topic or concept without any discussion as indicated in

(8). This was considered pushed output within implicit instruction. Following the

writing task, the instructor highlighted to the class key aspects of the selected learners' writings and elaborated on the word in relation to context.

Instruments

The instruments used in this study were the Productive Vocabulary Level Test (PVLТ), the Lexical Frequency Profile (LFP) and the Depth of Vocabulary Knowledge Test (DVK).

The Productive Vocabulary Level Test (PVLТ)

The PVLТ is a diagnostic test and was chosen because it is a vocabulary size test, easy to administer and score. It requires students to produce words as they would be speaking or writing, and thus appears to be a more realistic representation of language use. More authentic modes of measuring vocabulary such as analyzing students' writings and recording their interactions would have dramatically lowered the practicality of the test. Furthermore, the words elicited in the test are based on an existing corpus and therefore represent an accurate profile of the words and their frequencies in natural use. (Zimmerman, 2006). The PVLТ uses the following format (9):

- (9) Nuts and vegetables are considered who_____ food.
 Many gardens are full of fra_____ flowers.
(answers: wholesome, fragrant)

Subjects completed the sentences by writing out the exact word form. The initial letters of the word form was given to ensure that subjects produced the exact word form. The

PVLT tested words from five different frequency groups: the first two thousand most frequent words in the English language, the three thousand most frequent words, the five thousand most frequent words, the University Word List, and the ten thousand most frequent words. Each frequency level was represented by 18 items on the test, and this made it a total of 90 items or words. As the words on the test were taken from a sample of a large group of words, scores on the test provided an estimate of the student's vocabulary size. If a student who tested at the two thousand word level scored nine of the eighteen, then the learner was assumed to know 500 out of the 1000 words at that level. Because the high frequency words are the words that are generally acquired first, it was assumed that a high score at the first few levels enabled the learner to understand most of the words in the text. There are currently four versions of the tests and Versions A and B were used in this study as the pretest and posttest measures.

In terms of scoring, the items were considered correct if students wrote the correct word and part of speech, even if there were mistakes in spelling or grammar. For example, in the item, "*In order to be accepted into the university, he had to impr_____ his grades,*" the ideal answer would be *improve*. Nevertheless, *improves*, *improved* or *improving* even with spelling mistakes, were considered correct, since it is the vocabulary knowledge that is being tested and not grammar. However, a word such as *improvement* was considered incorrect, because it belongs to different part of speech, while *improvise* is a separate word altogether. According to Laufer and Nation (1995) a satisfactory level of mastery would be a score of 80% to 90% at the 2,000 word level.

The Lexical Frequency Profile (LFP)

The LFP is a tool that measures free productive vocabulary in the compositions of L2 learners (Laufer and Nation, 1995). It analyses writing in terms of the proportion of frequent and non-frequent vocabulary, and the calculations are as follows. A composition might have 200 words with the following distribution: 150 words belong to the first 1000 most frequent words, 20 words to the second 1000 most frequent words, 20 words to the University Word List (UWL), and 10 words belong to the Not-In-the-Lists (NIL) category. These words are converted into percentages out of the total 200 word families. Thus, the LFP of the composition becomes 75%-10%-10%-5%. The entire calculation is done through a computer program which matches vocabulary frequency lists with the learner's composition. The LFP measure is available through the website (http://www.er.uqam.ca/nobel/r21270/texttools/web_vp.html), and is also known as the Vocabprofiler. Any piece of writing can be pasted on the site and a profile would be generated in seconds.

The LFP is a measure of lexical use in writing and is topic independent and stable for measuring compositions written by the same students on different topics as long as the essays are of a general nature. In this study, the LFP was used to analyze the three essays of the students. It was used to compare the profiles of the individual students over time, and comparisons were made in terms of learner and group variability. In terms of errors that existed in learners' writings, when a word was clearly used incorrectly, the word was omitted since it could not be considered as part of the learner's productive lexicon, but if it was used correctly but misspelled, the error was corrected and kept

(Laufer and Nation, 1995, p.315). Proper nouns were deleted from the samples. As for investigating lexical richness, the words used in UWL and NIL were treated as low frequency words and therefore used as part of the data.

The Depth of Vocabulary Knowledge Test (DVK)

The DVK test is a measure of vocabulary depth. The test was developed jointly by a team of TOEFL test developers at the Educational Testing Service and is based on the word associates test (Read, 1998, 2000). The test is able to measure two aspects of depth of vocabulary knowledge: 1) word meaning, particularly synonymy and polysemy, and 2) word collocation. These aspects correspond to the vocabulary factors identified by Testing of English as a Foreign Language (TOEFL) 2000 researchers.

Within this context, knowing the word *almost* would include knowing the *different meanings*, namely: a) not quite; b) very nearly, and c) very close to. In regard to collocability, a *dark night* can be viewed as an *adjective + noun collocation* and one of the meanings of *night* is its *collocability* with *dark*, and one of the meanings of *dark* is its collocability with *night*. Therefore any complete word knowledge would include knowing the various paradigmatic and syntagmatic relations and being able to use these words in productive use.

The DVK test contains 40 items. Each item comprises one stimulus word which is an adjective and there are two boxes, each containing four words. Among the four words in the left box, one to three words can be synonymous to one aspect of, or the whole meaning of, the stimulus word while among the four words in the right box, there

can be one to three that collocate with the stimulus word. Each item has four correct choices, and the choices are not always evenly spread where sometimes there are more correct options for word meanings than word collocation and vice versa . An example of the items format is as outlined in (10).

(10)

Consecutive

(A)successive	(B)final	(C) fateful	(D)required	(E)attempts	(F)matches	(G)aspects	(H)terms
---------------	----------	-------------	-------------	-------------	------------	------------	----------

Subjects had to circle/ blacken the corresponding letters before the words according to the various meanings (A,B,C, D) and the various collocations (E, F, G, H). In scoring, each word that was correctly chosen was awarded one point, with a maximum possible score therefore 160 for 40 items. The measure was divided into two subtests according to the meaning section in the right box and the collocation section on the left box. For this study, the DVK meaning subtest contained a total of 79 correct answers, and DVK collocation subtest contained 81 correct answers. The subjects were given 35 minutes to complete the test.

Qualitative Data Collection and Analysis

In order to establish instructors' and learners' need for vocabulary, a questionnaire (Appendix A) was given at the beginning of the study to determine their preferred reading styles and awareness of vocabulary strategies. In addition, two sets of interviews were carried out on both instructors and learners to investigate their awareness and perception of the instructional process and its impact on learning

(Appendix F) . An open-ended structured interview was chosen because the researcher wanted to draw on the individual experiences and strengths of instructors and learners. The interview method was chosen because speaking was viewed as more authentic in an L2 task, and it was possible to elicit additional data when the answers were short or off topic. Two to three students from each class were interviewed for twenty minutes about the vocabulary task and their vocabulary needs. Their feedback was written down by the researcher. The instructors were given the questions ahead of time. Then the researcher discussed the teachers' responses for thirty minutes and wrote down their opinions.

The researcher also observed three sessions of each class in order to obtain an insight into the actual vocabulary instruction and learning that took place. During the observation sessions, the researcher recorded the various exchanges that took place when vocabulary was addressed. Only exchanges involving following situations (a), (b) and (c) were recorded.

- a) When the instructor focused on a keyword and elaborated on its form meaning following a writing context in which the learner had written.
- b) When the instructor provided the correct answers to activities (3) and (4) and elaborated on the form meaning links.
- c) When the instructor went into an in-depth elaboration on a word form during the process of instruction.

Coding Procedures Involving Qualitative Measures

In coding the qualitative data, the explanations were based more on the patterns of occurrence than on actual numbers and quantification used to support the research questions. The findings were based on data collected over a semester and within multiple settings to make the research as full and as complete as possible. This included reporting on specific instruction patterns, narratives of the learners' actions and the researcher's interpretation of the interaction. In addition, the integration of the questionnaire and the oral interviews served as multiple data that enabled the researcher to understand the locus of the research from as many feasible perspectives as possible.

A detailed explanation of the data analysis is provided in chapters 4.

Quantitative Data Analysis

The first research question concerns instructional effectiveness in relation to vocabulary development.

Research Question #1

Does vocabulary teaching lead to a gain in scores on the Productive Vocabulary Levels

Test :

- a) when taught implicitly ? (control group)
- c) when taught explicitly? (treatment group)

The extent of differences between the groups , (if any) was determined as follows:

- a) by a repeated means measure that measured the pretest and posttest PVLT AWL scores according to treatment types.
- b) by a comparison between the means of the pretest and posttest PVLT scores for the various vocabulary levels.
- c) by a repeated means measure which compared between subject effects and within subjects for the individual subgroups.
- d) by comparing the difference in gains for the various subgroups according to ability.

The question analyzed the vocabulary scores for the pretest and posttest levels of the PVLT scores. The pretest was conducted in the first week of January and the posttest was conducted in the first week of May. There was an interval of four months in between. The PVLT test instrument (Version A and B) generated two profiles of each individual learner. The UWL measures the academic words in the PVLT. The differences at the various frequency levels were compared. Comparisons were made between and within the control and treatment groups. The analysis involved a repeated mean measure and a within and between factor analysis. It also provided a detailed analysis of the various gains according to ability.

Research Questions #2

Do average grades in the students' essays (E1, E2, E3) correlate with scores on the AWL section of the Lexical Frequency Profile?

The differences, (if any), were determined as follows:

- a) by running the individual essays E1, E2, E3 through the LFP program to determine its 2000 and AWL level and words “Not in the List.”
- b) by determining the average means and standard deviation for essays E1, E2 E3’s AWL levels and grades for both L1 and L2 subjects.
- b) by running a Pearson Product Moment correlation analysis for the grades and the AWL levels of the three essays E1, E2 and E3 based on L1 and L2 learners’ performances.
- c) by determining the difference for between and within subject effects for L1 and L2 learners and for group performance through ANOVA.
- d) by constructing an interaction plot for E1, E2 and E3 to show the difference in interaction between the treatment types.
- e) by comparing the means of the various subgroups by ability according to L1 and L2 performance.
- f) by comparing excerpts from individual learner’s essays in terms of word use at the 2000 and AWL word level for both L1 and L2 learner.

The second research question looked at the changes in academic word use in terms of frequent word use and infrequent word use. The academic words in the LFP measure were identified as the AWL. The relationship between the AWL and grades was determined through a Pearson Product Moment correlation analysis. This provided information on the relationship between word knowledge and overall performance. The selected essays were compared to demonstrate the lexical density and lexical richness used by proficient learners and L2 learners which were considered as the target.

Research Question #3

Is the gain in vocabulary scores for the treatment group greater than the gain in scores for the control group for both L1 and L2 students on the Productive Vocabulary Levels Tests (PVLТ)?

The differences, (if any), were determined as follows:

- a) by comparing the means of the pretest and posttest scores for the 2000 and UWL word level for L1 and L2 subjects.
- b) by a repeated means measure to determine the difference for both within groups and between group effect.
- c) by comparing the means of the pretest and posttest AWL scores for both L1 and L2 subjects.
- d) by a repeated means measure to for L1 and L2 subjects who scored beyond 80 percent at the 2000 word level to test for both between and within subject effect.
- e) by plotting an interaction plot for L1 and L2 subjects' performance who scored beyond 80 percent at the 2000 word level.

The question investigated the differences for pretest and posttest scores based on treatment effect and learner differences. Learner differences included the difference between L1 and L2 learner performances and within proficient L2 learner and less proficient L2 learner performance. A learner who scored beyond 80 percent at the 2000 word level was considered as having acquired the threshold level and therefore considered proficient in terms of vocabulary knowledge.

Research Question #4

Do scores on a test of word definition section of the DVK test correlate with scores on a test of word collocation section of the DVK test for L1 and L2 students?

The differences, (if any), were determined as follows:

- a) by comparing the average means and standard deviations of the definition and collocation section for L1 and L2 subjects.
- b) by running an ANOVA to determine the between group and within group effect.
- c) by running a Pearson product moment correlation measure using appropriate means measures.
- d) by a scatter plot diagram

The question involved making a comparison between the average scores from the word definition section of the DVK test and the average scores from the word collocation scores obtained from the word collocation section of the DVK test for L1 and L2 in the treatment and control groups.

Research Question #5

Is there a difference in the degree of correlation between the word definition section (dvkm) of the revised DVK test and word collocation section (dvkp) of the revised DVK test for L1 versus L2 students?

The differences, (if any), were determined as follows:

- a) by comparing the average mean scores and standard deviation of the word collocation and word meaning section for L1 and L2 learners involved in the treatment and control groups.
- b) by running a Pearson Product moment correlation analysis for both L1 and L2 learners according to treatment types and learner type for target words meanings (dvkm) and collocations (dvkp) and overall words meanings (DVKM) and collocation (DVKC).
- c) by drawing a scattor plot for L1 and L2 subjects involved in the treatment and the L2 performance in the control.

The question involved determining the correlation scores for the 20 target words used in the word definition section of the revised DVK test and the word collocation section of the revised DVK test for both L1 and L2 students, and the correlation effect for the L1 and L2 subjects involved in the treatment and control. The correlation analysis was done for both overall test scores and the target test scores in terms of meaning(dvkm) and collocation (dvkc) tests. Table 3.8 provided an outline of the various measures and test that were used to answer the questions.

Table 3 8: Data Analysis

Research Questions	Types of Data Collected	Method of Data Collection	Spring, 2007
Does vocabulary teaching lead to a gain in scores on the PVLT? -when taught implicitly (control) - when taught explicitly (treatment)	Vocabulary profiles of learners at 2000, 3000, 5000, UWL, 10000 pre and post word level.	Pretest PVLT (A) Posttest PVLT (B) In class observations Oral interviews	Jan 12 May 2 Jan 15 – April 15
Do grades on the students' essays (E1,E2, E3) correlate with scores on the AWL section of the scores in the Lexical Frequency Profile for L1 and L2 subjects?	Rhetorical Essay Reflective Essay Revision Vocabulary level 2000, AWL , & NIL	Rhetorical Essay Persuasive Essay Revision and Reflection Analysis of sample essays	Jan. 10 –Feb. 9 Feb.12 – March 30 April 2 – May 2
Is the gain in vocabulary scores for the treatment group greater that the gain in scores for the control group for both L1 and L2 subjects on the PVLT?	Vocabulary profiles of learners at 2000, 3000, 5000, UWL, 10000 pre and post word level.	Pre- Test PVLT (A) Post PVLT (B) In class observations Oral interviews	Jan 12 May 2 Jan 15 – April 15
Do scores on a test of word definition section (DVKM) of the DVK test correlate with scores on a test of word collocation (DVKC) section of the DVK test for L1 and L2 subjects?	DVK scores 40 items Meaning vs. Collocation 20 items Meaning vs. Collocation	DVK test scores	May 2
Is there a difference in the degree of correlation between the word definition section (dvkm) of the revised DVK test and word collocation section (dvkc) of the revised DVK test for L1 versus L2 students?	Overall DVK test scores (40 items) meaning vs. Collocation Target Words (20 items) Meaning vs. collocation	Overall DVK test scores Target vocabulary a) Dvkm scores b) Dvkc scores	May 2

Conclusion

In sum, this chapter has described the research design that was chosen for this study, as well as the research questions that guided the investigation. Information on the participants' vocabulary learning strategies and their demographics were explained. Next, data collection and coding procedures were explained in greater detail in order to provide the reader with a comprehensive understanding of the methods of data analysis that were used in the following chapter, and to offer a basis for the interpretation of the results.

CHAPTER FOUR

FINDINGS OF THE QUALITATIVE INVESTIGATION

Introduction

Based on the theoretical and empirical research discussed in the previous chapters, five research questions were formulated to guide this study. The questions aimed to investigate the role of implicit and explicit instructional practices in increasing L2 learners' word knowledge and word use.

Research Question #1

Does vocabulary teaching lead to a gain in scores on the Productive Vocabulary Levels Test (PVLTL):

- d) when taught implicitly? (control group)
- e) when taught explicitly? (treatment group)

Research Question #2

Do average grades on the students' essays (E1, E2, E3) correlate with scores on the AWL section of the Lexical Frequency Profile (LFP) for L1 and L2 subjects?

Research Question #3

Is the gain in vocabulary scores for the treatment group greater than the gain in scores for the control group for both L1 and L2 subjects on the Productive Vocabulary Levels Tests (PVLTL)?

Questions 1 - 3 focused on the role of explicit and implicit vocabulary instruction for increasing L2 learners' vocabulary knowledge and the effectiveness of form focused

instructional conditions for increasing learners' word knowledge and word use as measured on the Productive Vocabulary Levels Test (PVLТ).

Research Question #4

Do scores on a test of the word definition section of the DVK test correlate with scores on a test of the word collocation section of the DVK test for L1 and L2 students?

Research Question #5

Is there a difference in the degree of correlation between the word definition section (dvkm) of the revised DVK test and the word collocation section (dvkc) of the revised DVK test for L1 versus L2 students? (The revised test included only the words from the test that were taught to the treatment group).

Questions 4 and 5 looked at the relationship between word meaning and word collocation and the usefulness of rich lexical activities for increasing learners' in-depth word knowledge. To investigate the various research questions, a variety of statistical and qualitative measures were used. The SPSS statistical package 15 was used for the statistical analysis. Before presenting the results, it is necessary to present the qualitative findings from a) the classroom observations, b) instructor and students' oral interviews, and d) the questionnaire on vocabulary strategies.

Instructional Settings

A total of four instructors were involved in the study, and while every effort was made to minimize the differences among the instructors, there were some instructional

differences due to internal and external instructional behaviors and settings which had to be addressed before addressing the questions. For an overview of which instructors taught which groups of students see table 4.1.

Instructor A: The Tech Savvy Classroom

Instructor A's classes (A1+, A2-) were conducted at the ILC Building, which provided an optimal learning environment. Equipped with distance learning capabilities and plentiful power outlets, it had the ideal learning environment, complete with spacious classroom ambience and sitting placements which were considered to be some of the best in the university. The subjects in both treatment and control classes had access to individual laptops, complete with internet connections. Instruction was carried out using LCD projectors and large multiple screens. The students were constantly multitasking in terms of reading and writing. Students often had several websites opened at the same time, while working on a hard copy of their assignments. This made learning convenient as students managed to draw on a variety of additional resources for discussions and had their peers on the same page while discussing. In terms of unfamiliar words, students in both the treatment and control classes did not wait for the instructor to explain but rather looked up words on their own through the various online dictionaries. This was certainly the ideal learning environment, as students were literally connected to the world and truly computer savvy. Instructor A's feedback for both treatment and control classes appeared highly focused, accurate and appropriate to the context of learning. In terms of teaching unfamiliar words, only rare or ambiguous words that

were seen as confusing or important to the instructional context were clarified for both control and treatment classes. As for explicit error correction and error feedback, the instructor regularly displayed selected paragraphs from individual students' writing for the class to analyze and comment upon. The excerpts often did not have the authors' names on them, and students were either provided with a printed copy or the individual paragraphs were projected on screens for learners to comment on. Students would take turns identifying the errors and this would be followed with a discussion on how the writing could be improved.

Instructor B: The Traditional Classroom

Instructor B's classes (B1-, B2+) were conducted at the HB and SS buildings. The HB Building is known for its confusing entrances and long gloomy, winding stairways. Classes in both buildings had long tables that negatively affected student teacher interaction. In fact, the tables hindered face to face interaction at several levels. It was difficult to move to the end of the table, turn the chairs around, and any attempts to stand involved students having to move their chairs backwards. Both classrooms had overhead projectors, and the instructor used transparencies and handouts for providing comprehensible input. The instructor regularly highlighted keywords and concepts in an effort to draw learners' attention to the main topic for the day. Both treatment and control classes engaged in a number of group activities where students worked together to edit their peers' essays. These peer editing sessions did not work very well for the L1 students and for the less proficient L2 learners who appeared more interested in doing

their own work. The proficient L2 students had more questions for the instructor and appeared attentive to the instructor's suggestions, though their questions were less focused than the L1 subjects' questions. The less proficient L2 students did not interact with the rest of the class and rarely spoke out in class.

Instructor C: The Large Classroom

Instructor C's class (C12-) was conducted at the PB Building. It was a large classroom with a sitting capacity for almost 50 students but had no internet connection. The L1 students generally sat at the back of the class, while the L2 students sat in front. The instructor provided the input and the L1 speakers seemed to dominate most of the discussions. Nevertheless, the instructor often intervened to include the L2 speakers as well. It was necessary to include the L2 learners because the L2 learners in the class shared a variety of first languages and hardly spoke to one another. However, this required the instructor having to move back and forth most of the time. The L2 learners appeared more responsive during the writing sessions, especially when they were given a writing task. Vocabulary was usually addressed in context where the instructor tried to get the subjects to arrive at the meaning. The instructor often provided a number of clues and often encouraged the subjects to identify the target word and its different meanings.

Instructor D: The Small Classroom

Instructor D's class (D12+) was conducted in the CC Building. It was a very small classroom with sitting space for fewer than twenty students. The instructor could

only move from the table to the board, and movement was highly restricted. Students generally sat close to one another, but there was limited interaction between the L1 and L2 learners. The majority of the L2 learners sat towards the left section of the class, while the L1 speakers generally sat on the right section and filled up most of the seats in the front portion of the class. Interaction was generally confined to a number of L1 students who dominated most of the conversations. There were several L2 learners who appeared immersed in their own readings all the time and hardly spoke out in class. Although, the instructor did make an attempt to get the L2 speakers involved, the exchanges were often limited to single word utterances with the students quickly returning to their readings once the exchanges were over. The instructional settings and strategies are summarized in table 4.1.

Table 4 1: Instructional Settings and Input Strategies

Gps	Technology	Time	Days	Vocabulary Strategies	Communicative Strategies
A1+	Internet resources Individual laptops	9.00 a.m.	MWF	Googling Online resources Instructor feedback Peers	Instructor- student Student – student Group feedback Online Collaboration
A2-	Handouts	10.00 a.m.			
B1-		9.00 a.m.	TWF	Explicit feedback	Instructor – student Student –student
B2+	Overhead Projectors	11.00 a.m.	TWF	Guessing Peers	
C12-	Printed Handouts	9.00 a.m.	TH		
D12+		11.00 a.m.	TR		

Instructors = A, B, C, D	Treatment = +	Control = -
L1 students = 1	L2 students = 2	L1 + L2 students = 12

Summary

From the observation, it was possible to say that the technologically equipped classes managed to cover a broader selection of readings and resources compared to the other classes involved in the study. The classes that began at 9.00 a.m. had subjects who were more active during the sessions than the classes that began at 11.00 a.m., which often had students walking in ten minutes after the class had begun since a number of the subjects were coming from another class. Also, the combination classes which included both L1 and L2 learners usually met twice per week for 75 minutes each, while all the other classes met three times a week for fifty minutes. Peer editing activities often lasted for a longer period of time in the combination classes than in the other classes. The sitting positions were rather obvious, since most L2 speakers tend to sit together but do not engage in active communication and certainly not as much as the L1 speakers. The small class was also at a disadvantage because instruction was regularly disrupted whenever students walked across the class to get to their seats at the left and back of the classroom. These differences though small and unavoidable, did influence the classroom atmosphere in terms of interruptions, noise and learner attitude.

Vocabulary Instruction in the Treatment and Control Classes

In terms of implementation, a subset of the population (64) was subjected to explicit instructional treatment through FonFs and FonF vocabulary activities (henceforth *task*) and the remaining (65) subjected to implicit instructional treatment.

Focus on Forms Activities (Treatment Group)

The treatment groups engaged in vocabulary activities that required them to, a) fill in blanks with the correct answers as they appeared in a given sentence, and b) match or c) write out word phrases such as collocations, as provided in the examples below:

e.g. a) **Fill in the blanks**

Successful athletes often understand that in order to be the best you can be, training in the mental skills associated with peak performance is essential. (*answers: peak, essential*)

b) **Circle the first word that comes to your mind**

Peak : out hours down performance steadily (*answers: hours, performance, steadily*)

f) **Write the first word/phrase that comes to your mind.**

i) considerable _____ ii) _____ considerable

answers: considerable (amount, quotes, influence),

(suffered, provoked, learned) considerable

Only ten minutes was suggested for each task, but instructors made individual changes to the time based on the abilities of their students. All tasks were carried out in class. The learners did not need to spend time rewriting the sentences and merely filled in, wrote out, or circled the correct word. All the students in the explicit treatment group attempted the first part of the task where they had to fill in the blanks with the word form. However, many students did not attempt the word association section (c) when answers were not provided. Many L2 students found the word association tasks to be difficult (b and c)

and commented that they were not used to such activities. Some L1 students (Group A1+), nevertheless found it interesting and looked forward to it. After spending five to six minutes on the tasks, the instructors often had the subjects check their responses. When time did not permit, the instructors often gave the answers.

Implicit Vocabulary Writing Activities (Control Group)

The first year composition classes normally engaged in implicit vocabulary learning activities that involved free writing using selected words. The treatment classes substituted the explicit instruction described in section 3.1 for these traditional lessons. Nevertheless, these traditional activities involved form focused instruction (but not the specific forms and form lessons provided in the treatment classes). For example class C12- did the following activity. The teachers asked of the whole class, “give me four words” The students called out these words which were then written on the board. The activities involved subjects having to expand on the given number of words as provided in a) and subjects having to write a paragraph for ten minutes as indicated in sample drafts (c) and (d). The keywords were often elicited from the students by the instructor.

a) Keywords

Asian Americans minority health

Paragraph

(b) Sample draft (1):

I plan to study the area where there are large populations of Asian Americans where they are visible and yet underrepresented. They have significant concerns regarding their health.

(c) Sample draft (2):

The topic I propose is concerned[sic] with Asian minorities in the United States. I will focus on their health problems in the American system. I believe that Asian Americans should be attended to because they compose [sic] of a group of people who help the country in various areas.

Ten minutes was suggested for the free writing activity, but instructors made individual changes to the time, based on the needs of the student in class. Students were generally encouraged to sit in groups and given sufficient time (10 minutes) to write the paragraphs. Most students generally wrote a few sentences before going on to do some other activity while waiting for the rest of the L2 learners to finish. Once most of the students had finished, the instructor would call upon a student to write his or her paragraph on the board as was done for (c). This activity would be followed with a discussion on accuracy and appropriateness of word use, and how certain words help provide a cohesive chain effect to the writing. Following the discussion, the rest of the students would circulate their writings for their peers to comment upon.

Comprehensible Input and Form Focused Instruction

Throughout the study, vocabulary was addressed according to the implicit or explicit instructional conditions based on the research design.

Implicit Vocabulary Instruction

Implicit vocabulary instruction involved vocabulary being addressed in context as indicated in exchange (1). The class involved is mentioned beneath the heading.

(1) Implicit Vocabulary Instruction**Class (C12-)**

Tr.: In society media has identified the **ideal** image, however...

people should be accepted for who they are as a person

and not how they are viewed. Now what is the **ideal** image?

*S1: The **ideal** image is that people should be who they are...*

Tr.: ...but that is not really true.....?

S2: No, it is only an image, an illusion that they should be accepted..

S2: ...that's right... we live in a world of make believe...

S1: ...the media tells us how we should be viewed and that is as individuals with rights.

Tr: Exactly.

In (1) the focus was on getting learners to figure out how the word *ideal* was used within the context of the language. By highlighting the keywords **ideal** + **image**, the instructor brought to the foreground a number of related words such as *illusion*, *accepted*, *view* and *world of make believe*. Each additional interpretation provided a link that helped reinforce the word with its various senses, making it possible for the learner to guess the meaning in context. Nevertheless, interaction of this nature requires some additional understanding of the context on the part of the learner, which may not necessarily be available for all learners. Thus, such discussions often had a select group of students providing all the input, while the rest of the class looked on. The silent observers were expected to arrive at the meanings by making connections between the form and the explanations through comprehensible input. However, meaningful

comprehension of this nature can be rather subjective, since learners are expected to process a large amount of linguistic input, process both word meanings and concepts, and all this has to be done within a relatively short span of time. This can result in learners (especially L2 learners) rushing to process a large amount of input which might make a lot of sense or little sense, and in their hurry to obtain the overall meaning, difficult words can be overlooked since they take a longer time to process, less difficult words overlooked because the learner did not deliberate on the word for long, and chunks ignored because the discussion had moved further on. Instructors need to ensure that learners understand the key concepts before engaging in meaningful discussion, since there are learners who still need help with the basic concepts.

Instructor C agreed that it was necessary for learners to understand the meanings of the words *ideal* and *image* as used in the discussion. When asked if the less proficient learners would have understood the word *image*, the instructor admitted that some of the students “might have had problems, especially when words were used in a different context”, but then again, it was necessary for learners to realize that words take on different meanings when used in relation to another word. As for the need to provide explicit explanations for the target word *image*, the instructor found it to be less important since there were simply too many words to address, and time was always of crucial essence. Instructor C had this to say of vocabulary instruction.

I often ask a question to make sure that the students understand the discussion. I do not pretend that everyone is right or that I know what my students’ conclusions will be. I do tell them if their interpretation is wrong or if they have misunderstood a word form.

However, I always let them know that they are right when I see that they have got the point. (Instructor C)

It would be overly optimistic to assume that all instructors hold this position.

Nevertheless, it makes sense that instructors consider it useful that all learners listen and participate in academic discourse. Then again, when such classroom conversations are repeatedly dominated by a particular group of learners, and the majority remain silent, instructors could consider allocating some time to expand on key vocabulary and explain words in relation to their various senses.

Form Focused Instruction (Treatment Group)

In the treatment group, words were also addressed from within a meaningful context. At the request of the researcher, when a student was unsure about a word, the instructor often intervened to elaborate on the word form by providing an alternative word meaning or through a precise grammatical term. This often involved the instructor initiating a discussion following a student's question as presented in exchange (2). In the example (2), the instructor encouraged the student to expand on the target word. This helped the learner to produce the form meaningfully, enabled the instructor to recognize the gaps in the learners' lexical knowledge and contributed to greater collaboration from the class. This was considered an example of the focus on form (fonf) instructional approach.

(2) Explicit vocabulary Instruction (fonf)**Class (B2+)**

Tr: What kind of cultural movement will you focus on?

S1: Time difference

Tr: What is your topic?

S1: Lost

Tr: What do you mean by "Lost"

S1: Culture is lost

Tr: What do you think your topic will be?

S2: Lost as in the TV program.

S1: In movies you see people do not understand...How cultural [sic] changes? When we are growing up it changes.

Tr: All right... there is a difference between culture changes and cultural changes...

S3: Yes... like popular culture ... hip hop

S4: ...to grow something and the culture changes

Tr: Cultivate. Yes, that too. So what is cultural changes?

S2: something about the culture

S1: development of the culture... like how we are growing up. Things change.

Tr: I agree. Cultural is an adjective and culture can be both a noun and a verb. Try to write a couple of statements with these words. We'll put them on the board.

In trying to get the students to expand on the topic, the teacher encouraged subject S1 to expand on the meaning of the word *lost*. During the discussion, subject (S1) makes a mistake by replacing *culture* with *cultural*. Rather than correct the mistake, the instructor tries to elicit further student output by encouraging the subject to differentiate between *culture changes* and *cultural changes*. The students' (S2, S3 & S4)

collaborated to construct meaning, and subject S1 went on to relate the word *culture* to his discipline e.g. “*culture*” as “... *to grow something*.”

The instructor meanwhile, served as the monitor and helped by explicitly focusing on the form (e.g. *culture* can be used as a noun as a verb as well). It can be assumed at this point that the grammatical clarification contributed to precise meaning, and the discussion provided in-depth awareness of the word form and its various meanings. Grammatical explanations however can only be useful when learners are capable of making metalinguistic associations. The ability to analyze word meanings in relation to grammatical forms requires memory and cognitive skills that are dependent on vocabulary learning strategies, first language experiences and learner proficiency. It is therefore important that instructors help learners understand the grammatical forms and help them develop greater awareness for the unfamiliar word through additional elaboration and meaningful classroom discussion. Repeated exposure of a word in different contexts helps with the consolidation and networking process.

Instructor A, when asked if the subject had actually understood the meaning, replied that while L1 speakers were generally capable of making such associations, it was not possible to likewise generalize for all L2 learners. Nevertheless, the instructor had the following to say in terms of using grammatical terms to explain meanings.

It is easier to explain a word when you use a specific form. It is accurate and it is more convincing. Then, it is not possible to explain all words with a grammatical form. Some words require further elaboration and sometimes, I am not sure if I know how. It is

helpful when students come up with their own interpretation, and you can help them along. (Instructor A)

It was obvious that at a practical level fonf activity served two objectives:

- a) It helped instructors put across meaning without having to devote a large amount of time to explanations and clarifications.
- b) It enabled instructors to provide a single interpretation. The rule explained it all.

Unfortunately, while seeming to make the instructor's job simple, such techniques took away the satisfaction of creative construction and thought provoking elaborations that have become an intrinsic aspect of good teaching techniques.

Rich Lexical Instruction

One version of form focused instruction is rich lexical instruction. Throughout the study, there were several attempts on the part of the instructors to teach vocabulary through rich lexical activities in both treatment (explicit) and control (implicit) conditions. These activities were aimed at providing learners with in depth word knowledge about the various senses of the words. Such rich activities took place in two situations. They took place during the fonfs vocabulary activities when learners worked on word meanings and word collocations. While the processing was implicit, the learners, o explicitly attended to specific word forms and engaged in pushed output to produce the correct form. In addition, rich lexical instruction also took place when L1 subjects and proficient L2 subjects intervened to help less proficient students to comprehend word meaning as indicated in (3).

(3) Rich Lexical Instruction

Class (D12+)

Tr: All right class. What do you understand by "... get the shaft?"

S1: ... *get screwed over*.

S2: *What does it mean ...?*

Tr: ...an unfair treatment.

S2: *What's the shaft?*

S1: *It's like the elevator shaft... to push someone down the shaft.*

Tr: Actually, it originated from the body of a spear.

It is to treat someone or something in a harsh and unfair way.

The middle class will continue to get the shaft ...

Two important factors were at work in this situation. First, the meaning of the phrase "get the shaft" was collaboratively constructed by students and instructor. Second, the L2 learner (S2) understood the meaning through the output of the L1 learner (S1). In (3), the more proficient speaker (S1) provided the literal meanings, and the instructor filled in the gap in the learners' interlanguage by providing the core meaning. Rich instruction enabled learners to increase their word knowledge in terms of word size and word use. In this context, the learner learned the meaning of the expression "get the shaft", the word *shaft* in relation to the verb and noun as well as the context in which it appeared. The instructor provided additional input in terms of core and peripheral meanings, which helped to reinforce *deeper understanding* (Schmitt, 2000). However, it was difficult to tell if the learner had developed greater understanding since the subject

(S2) did not have an opportunity to produce the correct output at the end of the discussion.

When asked if the learner had understood the meaning of “to get the shaft” and whether it would have been useful if the subject had actually produced the target expression, instructor D admitted that the possibility of the learner not having understood the precise meaning, but the instructor’s intention was not to test the student’s in-depth awareness and understanding. The aim of the discussion was merely to recognize the difference. After all, word learning is continuous and learners rarely understand a word based on the first encounter. The instructor felt that meanings were co-constructed by the learner and the environment and therefore, it was not possible to expect learners to understand the precise meaning of the word. Also, at the university level, learners were responsible for their own learning. Although convinced that focused elaborations helped learners notice words and their meanings, the instructor felt that it was more important to consider the needs of the L1 students.

I agree that there are some L2 students who need help with their vocabulary in my class. ... but then, this is the L1 environment. I guess they have to communicate and read more like the native speakers, and they’ll get there. I do not want to make the class sound remedial because word learning is not in the syllabus. ... yah, some students at the back are passive. They do not like to talk... maybe its their culture ... I leave it to them... but they are alright when it comes to writing. (Instructor D).

Conclusion

It would appear that most instructors while aware of the L2 learners’ lexical limitations, prefer to avoid situations that require extensive interpretations of word

forms especially when both L1 and L2 students are present in the class. While instructors generally expect all students to contribute to classroom discourse, it was not necessary for L2 learners to actively contribute to this discourse. Instructors prefer to relate it to L2 learners' otherness (Cultural differences). This attitude probably explains conditions in language classrooms where L2 learners' contributions remain confined to brief question and answer sessions, while L1 learners go on to actively participate in meaningful interaction. It was the rare instructor who took the time to wait for L2 learners to emerge from their silent era of passiveness.

Pushed Output

Feedback and error correction were two additional approaches to getting students to literally notice new words, attend to meanings and gain awareness of the various senses of the word. Within this context, both treatment and control groups experienced instances where the instructors provided explicit feedback and clarification of appropriate word use. Within the normal course of the writing lessons, the feedback was often in the form of getting students to identify inappropriate word choice, and subsequently, getting students to guess and arrive at the approximate meaning through context. Instructor C's attempt to get subjects to notice the specific words through implicit learning is as presented in (4). The feedback was a follow-up to the free writing task of a student.

(4) Focused Feedback**(C12-)**

(Teacher writes down a student's response).

Tr: I want you to contrast and compare. Analyze the first statement.

“One finds themselves.” What is wrong?

S3: *Singular and plural (noticing)*

S4: *Oneself*

Tr: Good. (Instructor replaced “themselves” with “himself”)

Now, I want you to analyze your friends' writings. Look out for inappropriate words.

It was unclear whether all the subjects understood why “one finds themselves [sic]” was wrong in the first place and why *himself* was preferred over *oneself*. The instructor merely wrote the correct form following S3's explanations. Probably, the very fact that the student was able to notice the mismatch between the singular and plural forms made the instructor decide that the subject had understood the error. This intervention can also be construed as a grammar lesson. Then again, most explicit vocabulary instruction involved brief episodes of noticing such as in (4). There was minimal elaboration and attention to word form. For the most part, instructors preferred to overlook odd word use and only pointed out gross errors when it was seen as necessary. Such actions enabled the instructors to cover a large amount of content knowledge.

When asked if the subjects had actually understood the tasks, instructor C explained that the students were familiar with such activities, and the aim of most lessons was to get learners to notice such features and attend to such forms in the near future. The instructor felt that adult L2 learners were capable of learning quickly and

would be able to analyze the differences without having the instructor spend additional time on them. The instructor had the following to say about vocabulary instruction.

I feel guilty sometimes that I do not address vocabulary although I know that my L2 learners benefit from being made to notice certain words. But I think it is more important for learners to take responsibility for their own learning. You'd be surprised. Some of my international students have great difficulty in writing in English at the beginning of the course, but they show remarkable progress by the end of the semester. They learn fast, something I wish all my students were capable of ... (Instructor C).

Evidently, instructors were not too concerned about having students needing to spend time on learning unfamiliar words in class. Rather, the instructors found it more important that learners develop into independent writers who have the skills to self correct and edit their own works. Then again, the instructors did not ignore their students' vocabulary needs. Most instructors found it useful to address some general aspects of word learning rather than focus on specific vocabulary. The instructors worked on individual learner's vocabulary, edited their drafts and made corrections in terms of inappropriate word use through occasional written feedback. Most instructors seem to think that the L2 subjects did not have many problems with word use, at least for the classes involved in the study. As instructor D said, "... the L2 students do not have many problems with their word use in their writings. The words may not be highly specific, but they seem to be able to relate their thoughts well through their writings."

Direct Error Correction

Error correction often resulted in pushed output. Throughout the study, instructors had

plenty of opportunities to correct learners' errors directly and indirectly. There were occasions when an error involved a learner's inappropriate word choice. Most face to face interactions involved brief half sentences and phrases which could be easily filled in by the interlocutor. In addition, L2 learners generally restricted their conversations to brief sentences, making it difficult to detect any mistakes in actual word use. While productive word use enabled the instructors to notice errors, opportunities as presented in (5) were rare and isolated.

(5) Explicit Error Correction (D12+)

Tr: ... you do not say *cooker*. It is *cook* like ... *chef*.

S1 : *Yah,.... but I do not want to say male cook.. .like teacher... you say it for a male and female.*

Tr: You want a neutral term.

S1: *Neutral term? ...No male and female words*

Tr: ... All right class. I expect you to avoid sexist language.

S2: *sexist language?*

Tr: Yes... now, who can give me some examples of a sexist language?

S3: *postal carrier/mail carrier*

S2: *a sexist language ??*

Tr: policeman... we should use police officer

S1&S2: *oh (smiling)*

By encouraging students to provide examples of sexist language, the instructor attempted to get the L2 student (S1) to notice and use the neutral terms. However, to get the learner to understand the term, it was necessary to explain the differences between neutral terms and sexist language. This included giving attention to appropriate form, focused elaboration, practice and consolidation. Also, the instructor

had wanted the L2 subjects to produce the correct form, but the L1 subject (S3) intervened to provide the answers. This resulted in the L2 subject being denied of the opportunity for pushed output. The instructor's subsequent reply furthered the L2 learner's opportunity to engage in any pushed output. Here the L2 speaker succumbed by limiting his output to a mere "oh!" It was difficult to determine whether the subjects' (S1, S2) smiles signified understanding or bafflement. L2 subjects constantly lost out on the opportunity to engage in pushed output.

When asked if L2 learners were losing out because of over enthusiastic L1 speakers, instructor D explained that L2 subjects benefit from the interactions by listening in on L1 interactions. The instructor was convinced that L2 learners increased their vocabulary through meaningful input which was provided by the L1 and proficient L2 speakers. "After all, that is communicative teaching" (Instructor D).

Indirect Error Correction

Indirect error correction also resulted in pushed output. Instructors used learners' essays or excerpts from drafts were used as stimulus for discussing inappropriate structure or word use. The discussions included providing explanations on word choice, keywords, transitional markers, formal and informal word use. Occasionally, students were given printed handouts containing excerpts from individual student's writings as indicated in 6 (a).

Following a brief discussion on the interpretations of *commenced* and *implement*, the instructor crossed out the two words as in 6(b) and wrote out the correct word. The

instructor subsequently went on to highlight informal word use as indicated in 6 (c) and explained that "...American students had more of a problem with informal word use" and referred to the words *got going* and *hurler*.

(6) Excerpts from Students Writings

(a) Too Formal

Once a pitcher for the Cincinnati Reds, Bob shared with me the secrets of his trade. His lesson *commenced* with his famous curveball *implement*.

(b) Appropriate Word Choice

Once a pitcher for the Cincinnati Reds, Bob shared with me the secrets of his trade. His lesson ~~commenced~~ began with his famous curveball ~~implement~~ *throw*.

(c) Informal Word Choice

... Bob shared with me His lesson **got going* with his famous curveball **hurler*.

By getting learners to identify common errors and elaborating on them, the instructor succeeded in getting students to engage in the discussion. Contrastive analysis of this nature helped both L1 and L2 learners notice the difference between common errors, over generalizations and appropriate word forms. Most instructors involved in the study agreed that their L2 students benefit from such feedback sessions, and L2 learners want to be told about their mistakes and errors. "My students want to be corrected and told when they have gone wrong" (Instructor B).

Instructor Practices

While all four instructors agreed that vocabulary instruction is necessary in the

language classroom, instructors differed in terms of how and what vocabulary should be addressed in the writing classroom.

Instructor A

Despite agreeing to the study, the instructor was apprehensive when informed that it was the L1 subjects who would be involved in the treatment condition. The instructor felt that explicit vocabulary instruction was already being addressed in the language classroom all the time. Nevertheless, instructor A's classes were unique in that the subjects in both treatment and control groups had the opportunity to go online to search for additional reading material. When searching for journal articles, the instructor made students list out potential keywords for their essays (e.g. *CATHOLISM – pope- religion – church*) and made them think about the usefulness of the words, before going online to look for useful articles. Similarly, when doing “double word searches” as in “single + mother” and “single mother”, the instructor went into an in-depth discussion on the differences between words as they appear in isolation and words that appear with another word and demonstrated how such differences can result in the surfacing of different reading materials when sourced from the web. The opportunity to work with computers did have its own limitations, especially when subjects became more involved in the online activities rather than paying attention to the instructors' input.

Vocabulary instruction in instructor A's classes involved either providing clarifications on the importance of certain words in relation to others as presented in (7) or providing explicit error correction as in (8).

(7) Implicit Attention to Vocabulary**(A2-)**

Tr: I want you to include a *zinger*- some sort of impact.

Something audience will go “wow!”

S1: *wow...*

Tr: Focus on the vocabulary, try to raise an interesting issue,
think about the phrases, a word combination that makes it powerful.
Identify synonyms, which meaning is more powerful, stronger...
which is weaker... now work on your thesis statement.

(8) Explicit Attention To Vocabulary**(A1+)**

S1: *Why can't we use willful tricks.*

Tr: Well, willful involves a deliberate action and wily

is associated with cunningness. Both are adjectives.

S1: *yes... but isn't it possible to use willful here?*

Tr: It's inappropriate in this context.

In the implicit condition (7), it could not be determined that the learner had noticed the word “zinger” or the word “wow”. The instructor had wanted the learners to realize that certain words were considered to be more valuable than others, but it would not be possible to say that the learners were able to guess the words since they did not see or produce any actual samples of the words. In (8) the instructor was quick to point out that a word was incorrectly used. Explicit attention to the incorrect form helps students notice and attend to the correct form.

Instructor's Feedback

When asked why the instructor had not elaborated on the word *willful*, the instructor explained that adult students generally liked to be told if they were wrong, and they were capable of further analysis. It was not possible to spend time on the words because it was a writing class. In relation to grading, the instructor had the following comments:

I have two different grading criteria. I am generally stricter on the native speakers in terms of word choice. I am less strict on the L2 students and often encourage them to use special words. They are often graded based on consistency. Then again, my L2 students are pretty good this year (Instructor A).

All instructors agreed that they applied discretion when grading L2 students' essays and were aware of their L2 students' vocabulary limitations. Instructor A added that the program was already constrained in terms of having too many features to address, and that teachers really did not know how deeply they should be addressing vocabulary.

Instructor B

Instructor B was convinced that both L1 and L2 students benefit from explicit vocabulary instruction. The instructor considered attention to academic words to be an important aspect of language learning and felt that more should be done about it. The instructor was focused and consistent in terms of allocating time for teaching vocabulary. Although instructor B's classes were not equipped with online facilities, the instructor was satisfied and said that it provided more time for learning without worrying over technology. Although the classroom settings did not promote a friendly environment,

and the instructor was the only resource for providing input, both L1 and L2 students were highly engaged whenever the instructor was involved in the group discussions.

In the treatment class, the subjects worked on the task sheets for 5-6 minutes. The subsequent four to five minutes were used to discuss difficult and unfamiliar words found in the tasks. The instructor took the initiative to get the subjects to notice the various words in terms of meanings and word use. The instructor was able to create a sense of importance for the ability to use a word well. Thus, by the end of the sessions, the more proficient students were competing against one another to complete the vocabulary tasks. Instructor B was convinced that L1 and L2 students both require greater awareness of academic vocabulary and the ability to use them well as indicated in (9) and (10).

(9) Form Focused Instruction

(B2+)

*S1: Why **wild** organic...? I think that is wrong?*

Tr: Why... what makes you think it is wrong?

*S1: No, **wild** oats maybe.... but wild organic (Laughs)*

Tr: Well **wild** can be both an adjective and a verb as in growing **wild**, but this is used as an adjective. You have to notice the words next to it.

*S2: yah... but **wild** country...*

Tr: yes, but that is used with a noun – as in a natural or undomesticated place ... You always need to consider the next word...words take on different meanings and forms like ... wildly, wildness

S3: Yes, and wilderness

Tr.: Let's list them down (Goes to the board and lists them down)

(10)Addressing grammar and vocabulary

(B2-)

Tr. : Now, there is a difference between *dictate* and argue about...

(points to the words on the board)

... As for George it is all right for him to *dictate*.....but...

..... now...what would you want to argue about.

Instructor's Feedback

Instructor B's views on using academic vocabulary were quite positive, and the instructor said:

I think that getting learners to use high frequency words well is so important. Students often think they know the words but misuse them or overuse them, and this includes my L1 students as well. I think there is a place for vocabulary in the language classroom, except that teachers are often unsure of the types of words that need to be addressed.

(Instructor B)

Instructor B's insight that L1 students need help with their vocabulary as well was useful considering the fact that academic word use differs from general word use. A single word such as *wild* can appear in different forms and also be specific to botany. As such, learners benefit from explicit vocabulary instruction especially when it involves high frequency words.

Instructor C

Instructor C was convinced that word knowledge is critical to learners' ability to write well and was most eager to participate in the study. However, as instructor C's class was part of the control group, it was not possible to engage the class in the fonfs and fonf tasks. Nevertheless, from the observation sessions, it was possible to tell that the instructor was involved in getting the subjects to notice and attend to useful word forms

as they occurred in the text. The instructor often encouraged the subjects to think of alternative ways of expressing the same word. The lessons often involved either the students or the instructor examining selected writings from individual students' works and writing out the phrase or words on the board for the class to notice. This would be followed by a discussion as in (11) where the instructor clarified the various relations of the words.

(11) Focus On Overall Word Use (C12-)

Tr: I can figure that this is a complicated topic. We can wrestle with it.

S1: I do not know what you mean by that.

Tr: Look at the last line, "... cannot define what the real meaning of life is"

S2: He's got good examples.

Tr: Yes. Now, look at how the paragraph starts and the ideas that follow.

S2: He should have started with a story.

Tr: Maybe. But, look at how much stuff he packs in his first paragraph... the words Good stuff... but let them be in their own paragraphs. There are several crucial concepts involved. What would you say about your paragraph?

S1: The last line, it does not unify the ideas. It needs to be expanded. I need to think of different words.

Tr: The last sentence... it is shouting for its own paragraph. Wonderful ideas and words. Think about them a little more.

It was the instructor who initiated the conversation and got the students to look at the words in relation to their concepts and overall topic. By encouraging students to deliberate on appropriate word choice, the instructor was actually getting the students to become reflective writers. By getting students to talk about cohesive structures, the instructor managed to get the students to reflect on their writings. This created further

awareness and understanding of the words. There was also a sense of collaborative engagement as both L1 and L2 learners saw themselves as playing essential roles in their learning process.

Instructor's Feedback

The instructor had the following to say of the class.

When I taught overseas, I realized that L2 students have so many important things to say, and I keep in touch with some of them. ... The L1 learners can learn so much from their experiences (L2 learners) if only they would interact more often. American students tend to jump at every opportunity to speak, and L2 learners take time to process. I try to address the L2 speakers first and wait for them. It makes them see that I am serious about their output. (Instructor C)

Despite instructor C's willingness to wait for L2 learners to produce their output, the instructor felt that L2 learners, regardless of their willingness to interact, were more attentive when it came to writing. The instructor believed that it was only a matter of time when motivated L2 students would overcome their limitations and write as well as L1 speakers. However, when asked if the instructor was able to differentiate between a proficient L2 learner's writing and an L1 speaker's writing, the instructor replied "yes... L2 learners tend to overuse certain words and work from within a limited language experience". All the instructors when questioned said that they could tell the differences between L1 learners' essays and proficient L2 learners' essays, and much of it is based on L2 learners' overuse of specific words and limited language experiences.

Instructor D

Instructor D felt that words were important for language performance but stated that the academic writing classroom was overwhelmed by too many other factors that were equally important. The instructor, though initially enthusiastic, became apprehensive following the first two tasks and said that the L1 subjects had found the tasks to be remedial and inappropriate. The instructor believed that such activities might be more suited to L2 learners' needs. The instructor was also afraid of being evaluated negatively due to the treatment tasks used in the study. This sentiment did have an effect in the implementation of the task as the instructor was often in the habit of ending each task with "... trust me; it will all fall in place at the end of the course."

Nevertheless, instructor D happened to be among the most effective instructors in terms of providing explicit vocabulary instruction. The instructor was adept at noticing the differences between L1 and L2 word use as indicated in (12).

(12) Differences between L1 and L2 word use (D12+).

Situation: L1 student is reading from a practice "letter to the editor" in which he complains about a proposed ordinance involving irrigation of citrus trees. The student was a citrus farmer and objected to the ordinance, citing his experience, but the teacher felt that the tone of his letter was condescending..

*S1: As... I am sure you are aware... it takes
over five years to see positive results on citrus as the trees...*

Tr: Comments... class? (silence)

All right avoid a condescending tone. American students tend to be brusque.

Use polite expressions. Always acknowledge the expertise of someone.

S2: If I can respectfully note, I think ...

Tr: Yes, use some kind of softening. Use words that appear more polite and agreeable. You should read some of the Asian students' expressions.

Similarly, there was another incident when the instructor highlighted “ ... hamburger is gross”. and explained what was a bigger problem with American students.

Instructor's Feedback

Clearly, the instructor meant well by addressing the use of coarse language and the differences between L1 and L2 subjects word use. In fact, by addressing the saliency of such features, students noticed the differences and understood the importance of certain words to the assignment. However, the instructor may also have been subconsciously excluding certain learners by stereotyping them as indicated below:

I feel that Asian students prefer to listen to their instructors and are more involved in processing the language. I have students from the Middle East who like to talk, and I leave it to them. I try to engage them in the discussion but do not force them. However, it helps when learners are able to tell the difference between what is acceptable language and jargon. My students generally like the way vocabulary is addressed. (Instructor D)

There was a great deal of truth in the instructor's comments. Students from the Middle East were generally more interactive while Asian students tend to remain in the background. Then again, there were exceptions. It was possible that by constantly listing the L2 learners' differences, the instructor was reinstating the differences among L2 learners who were already feeling the difference. Stereotyping can be a dangerous precedence, especially when specific minorities are targeted while others are missed out. The European L2 speakers' differences were never mentioned although the class had an equal number of European students.

Overall, instructors' approaches and attitudes towards vocabulary instruction and their learners were critical factors in this study. After all, it was the instructors who implemented the various treatment and control tasks. The instructors also contributed to the discussions during the feedback and error correction sessions. Overall, instructors who were able to introduce the vocabulary tasks as part of the lesson, found it easier to get students to complete the activities. Instructors who implemented the task as entirely separate activities that were unrelated to the writing lessons often had students completing only part of the activities. Some instructors who taught both the treatment (explicit) and control (implicit) instructional conditions highlighted the same word in the control sessions. There is the possibility that the instructors were also affected by the presence of the researcher, and this could have made them more attentive to word forms on those days.

Informal Interviews of Students

The general aims of the informal interview with the students were to a) discover how the explicit vocabulary instruction helped learners in their language skills, and b) how it met their vocabulary needs for the writing class. The questions were based on a semi-structured format, and the responses were categorized according to the four research questions. Of the 129 subjects only five students had responded to the online feedback. This then was followed up with two students from each class being invited to attend an informal interview session. A total of twelve students participated in informal interviews on a one on one basis. The interviews were conducted informally and the

students responses were written down by the researcher. They were asked how they saw vocabulary being addressed in the classroom and if it had helped them with their language performances (Appendix F), and their responses were categorized according to a) vocabulary instruction; b) word use; c) fonfs activities, and d) fonf activities. The interview was conducted after the delayed posttests had been completed. Due to the open nature of the interview, the responses varied, and were categorized according to whether the participant was a) an L1 speaker, b) a near native L2 speaker, and c) a less proficient L2 speaker. L2 speakers' proficiency was informally determined by the researcher and the responses are as outlined in 5.1 to 5.4.

Vocabulary Instruction

- a) What do think of the words that were taught in your classroom?
- b) Do you think teachers need to teach vocabulary?
- c) Do you find the interaction with the L1 speakers useful?

L1 Subject	<ul style="list-style-type: none"> a)I do not expect my teacher to teach me the words. (A1+) a)I understand most of the words. I am not worried about vocabulary. (A1+) a)I like working on some rare words. It makes you aware of new words. (D12+) b) It is the writing style that is important. (B2-) b) We learn words from reading. (C12-) b) I do not read very much and therefore may not use very many words.(C12-)
L2 Subject (Near Native)	<ul style="list-style-type: none"> a) Depends, sometimes there were difficult words, but most of the time, we could understand it. b) The teacher does not need to teach vocabulary. (A2-) b) I think the words used by my teacher were sufficient (C12-) b) I learn most of my words on my own. (C12-)

	<p>c) I feel that the L1 speakers' discussions do not address important issues.(C12-)</p> <p>c) I find that the L1 speaker's contribution is useful.(A2-)</p> <p>c) They think quickly but they get carried away (A2-).</p>
L2 Subject (Limited Proficiency)	<p>a) I find it difficult to understand most of the words (C12-, B2-)</p> <p>a) I know my vocabulary is not very good because English is not my native language but I read a lot (B2+).</p> <p>b) I think my instructor is doing a good job in teaching me new words (D12+).</p> <p>b) I like it when the teacher explains some of the words (B2+)</p> <p>c) I do not get to speak to the L1 speakers very much (B2+).</p> <p>c) They speak among themselves (D12+).</p> <p>c) I do not think that they speak about the topic (C12-)</p> <p>c) They talk a lot, and I prefer to listen to the teacher (D12+)</p>

Word Use

Suppose that you are in the process of writing a paper.

- a) Which aspect of the language would you be concerned with?
- b) How would you overcome that?

L1 Subject	<p>a) Grammar, structure, vocabulary (C12-) (A2+) (D12+).</p> <p>b) I will look for keywords (A2+) (D12+)</p>
L2 Subject (Near native)	<p>a) Vocabulary and grammar (D12+, C12-)</p> <p>a) Structure. Sometimes, I cannot think of the ideas, and I cannot put the ideas into correct words (A2-)</p> <p>b) I look at other essays for ideas (A2-)</p> <p>b) I Write out some important words (A2-)</p>
L2 Subject (Limited Proficiency)	<p>a) Words. English is not rich like my first language (D12+)</p> <p>a) Words and grammar (B2+)</p> <p>b) I need help with my writing. I will write short paragraphs with the main ideas.</p> <p>b) I think of keywords and then try to write a few sentences.</p>

FonFs Activities

- a) What do you think of the vocabulary tasks?
- b) Do you find them useful?
- c) Can you provide any suggestions for improving them?

L1 Subject	<p>a) We had so many other things to do, and it seemed funny to have us addressing vocabulary at the beginning of the lesson. (D12+)</p> <p>a) I knew that it was for the study. So I was not too worried. (D12+)</p> <p>b) We did not get to use many of the words again, and that was unfortunate. (A2+)</p> <p>b) It was fun. Some of the words were challenging. (A2+)</p> <p>b) I found the second part challenging.(B2-)</p> <p>c) I would encourage learners to use those words so that we can remember them. (A2+)</p> <p>c) The teacher could have made it more interesting. (A2+)</p>
L2 Subject (Near Native)	<p>a) It was helpful sometimes. (B2+)</p> <p>a) Sometimes, it made little sense. It was just busy work. (B2+)</p> <p>b) Words are not the same when used as a sentence. (D12+)</p> <p>b) We needed more time. It was difficult to answer all within such a short time. (B2).</p> <p>b) I found the explanations helpful but I did not complete many of the sections. (B2+).</p> <p>c) Maybe if we had more practice. I thought it was useful because I realized that the same word was used in a number of the exercises (B2+).</p>
L2 Subject (Limited Proficiency)	<p>a) I did not find it helpful. I did not complete many of the second part (D12+)</p> <p>a) Many of the words were difficult (D12+)</p> <p>b) I found some words to be difficult, and it helped me improve my English (D12+)</p> <p>c) Maybe less words (B2+)</p> <p>c) My English is poor, so I do not like tests (D12+)</p>

FonF Activities

Think back to a lesson, when the instructor made you examine a number of difficult words.

- a) Did you find it useful?
- b) Do you think that there is a better way of addressing it?

L1 Subject	<p>a) I found the focus on special vocabulary to be useful. (B1-)</p> <p>a) It was useful when the instructor pointed it out (D12+).</p> <p>a) It helps you notice words that are often taken for granted (C12-)</p> <p>a) I realized some new meanings for words that I thought I had already known (A2+)</p> <p>a) Not really. I knew most of the words. The explanations were not that helpful. (A1+)</p> <p>b) Maybe, if we had been tested for it at the end and given grades for learning it (A1+)</p> <p>b) Maybe, use it in the other exams. It helps when part of the word is given. We either know it or do not (D12+)</p>
L2 Subject (Near native)	<p>a) Yes. It was helpful. It was good to know the rules (B1-).</p> <p>b) Yes, it helped me improve my grammar knowledge (A2-) (B2-)</p> <p>a) I knew many of the words. It was not helpful (B2+)</p> <p>a) I would have preferred it if I had been told that there was a test at the end. Since it was not part of the grade, I did not understand the purpose. (D12+)</p> <p>b) Maybe, we could have taken it home and completed it at our time (D12+)</p>
L2 Subject (Limited Proficiency)	<p>a) I found the explanations helpful (D12+)</p> <p>a) Yes, it made me understand some of the words and the meanings (D12+)</p> <p>b) No, I did not understand some of the grammar explanations (B2+)</p>

Discussion

The L1 and L2 subjects recognized the importance of vocabulary to language performance but were divided over whether the instructor was responsible for their vocabulary learning, though many of the less proficient learners seem to prefer some explicit instruction at some point. The proficient L2 subjects seem to have greater confidence about their vocabulary knowledge. In terms of usefulness of L1 contribution, the L2 subjects did not seem to find it helpful since they were less involved in the classroom discussions. As for the vocabulary tasks, the L1 subjects found the section on the word collocation to be challenging, while some of the L2 subjects found that they did not have sufficient time to complete the tasks. Some of the students saw a discontinuity between the vocabulary tasks and the writing lessons and this could have affected their vocabulary learning process. As for the fonfs task, students generally were of the opinion that they did not get to use the words well, were affected by the time constraint and stated that it was difficult at certain levels. As for the fonf feedback activities, students found the feedback sessions to be helpful. This applied for all levels of subjects (L1, near native and limited proficiency). Some subjects encountered difficulties with the grammatical explanations.

Learning Strategies

The questionnaire on learning strategies (Appendix A) was carried out to identify the most frequently used and least frequently used vocabulary strategies of L1

and L2 learners, and so provide more background knowledge about the subjects. The information also contributed to additional understanding of the similarities and differences between L1 and L2 learners' vocabulary learning strategies and how it affected learning and teaching. A total of 57 strategies were listed, and subjects had to mark the strategies which they had used to learn vocabulary. The average mean scores and the standard deviations for both L1 and L2 subjects area are as presented in table 4.2.

Table 4 2: Summary of Mean Results for Strategies Used

Subjects	Range	Mean	<i>SD</i>
L1 speakers	0 - 18	7.1	3.1
L2 speakers	0 – 27	12.2	5.85

The maximum number of strategies used by the L1 speakers was 18 while the L2 speakers had used 27. Of the 57 given strategies, only three strategies were used by 50 % of the subjects. Some strategies were of greater importance than the others, and the top ten most frequently used vocabulary strategies were presented in table 4.3. Discovery strategies are used to discover meanings (D), and consolidation strategies are used to consolidate a new word once the subject has encountered it (C). From the outline of the ten most frequent strategies used by the two groups, it was obvious that L2 learners relied more on consolidation strategies compared to L1 speakers. The L1 speakers used an equal number of discovery and consolidation strategies.

Table 4 3: Ten Most Frequently Used Strategies

Strategy	L1		L2	
	Rank	%	Rank	%
Underline initial letter (C)	1	93.8		
Guess from textual context (C)	2	78.5	1	64.1
Use a dictionary (D)	3	69.2	2	56.3
Look for a picture, image or pictorial representation (C)	4	<i>44.6</i>		
Get teacher to explain (D)	5	<i>43.1</i>	6	<i>29.7</i>
Ask classmates for meaning (D)	6	<i>41.5</i>	3	<i>46.9</i>
Connect to synonyms and antonyms (C)	7	<i>36.9</i>		
Ask teachers to put it in a sentence (D)	8	<i>35.4</i>		
Analyze part of speech (C)	9	<i>35.4</i>	4	<i>43.8</i>
Try to remember the word affixes and roots (D)	10	<i>30.8</i>		
Practice (C)			5	<i>34.4</i>
Word sounds (C)			6	<i>29.7</i>
Check words (D)			6	<i>29.7</i>
Make sentence (C)			9	<i>28.1</i>
Try to use it with L1 speakers (C)			10	<i>25</i>

(D)discovery (C) consolidation * *Strategies used by 50% of the subjects are italicized in bold.*

Of the ten most frequently used strategies, five were shared by both groups, but they ranked differently with guessing and dictionary use being preferred by more than fifty percent of the participants in groups while underlining the initial letter was not favored by most L2 learners. In fact, L2 learners do not list a) underline the initial letter, b) remember the affixes and root words, and c) ask the teacher to put it in a sentence, as important. The ten least preferred strategies are ranked in table 4.4.

Table 4 4: Ten Least Frequently Used Strategies

Strategy	L1		L2	
	Rank	%	Rank	%
English tapes (C)	1	0	3	4.7
Configurate the new word (C)	2	1.5	2	3.1
Semantic mapping (C)	2	1.5	4	6.3
Word list (C)	2	1.5	1	1.6
Revise wordlists (C)	5	3.1	9	12.5
Word puzzles (C)	5	3.1	4	6.3
Idiomatic expressions (C)	5	3.1	9	12.5
Word family (C)	5	3.1	4	6.3
Googling (C)	9	3.1	9	12.5
Pictorial representations (C)	10	4.6	9	12.5
Key word (C)	10	4.6		14.1
Underline initial letter (C)		93.8	7	9.4
Paraphrase (C)		23.1	8	10.9

D-discovery C-consolidation

Evidently, both L1 and L2 learners do not favor consolidation strategies when they are directly related to memory strategies. This could have affected the implicit instructional practices.

The next chapter will analyze the various research questions.

CHAPTER FIVE

FINDINGS OF THE QUANTITATIVE INVESTIGATION

Introduction

Based on the theoretical and empirical research discussed in the previous chapters, five research questions were formulated to guide this study. The questions aimed to investigate the role of implicit and explicit instructional practices in increasing L2 learners' word knowledge and word use.

Research Question #1

Does vocabulary teaching lead to a gain in scores on the Productive Vocabulary Levels Test (PVLТ):

- a) when taught implicitly? (control group)
- b) when taught explicitly? (treatment group)

Research Question #2

Do average grades on the students' essays (E1, E2, E3) correlate with scores on the AWL section of the Lexical Frequency Profile (LFP) for L1 and L2 subjects?

Research Question #3

Is the gain in vocabulary scores for the treatment group greater than the gain in scores for the control group for both L1 and L2 subjects on the Productive Vocabulary Levels Tests (PVLТ)?

Questions 1 - 3 focused on the role of explicit and implicit vocabulary instruction for increasing L2 learners' vocabulary knowledge and the effectiveness of form focused instructional conditions for increasing learners' word knowledge and word use as measured on the Productive Vocabulary Levels Test (PVLТ).

Research Question #4

Do scores on a test of the word definition section of the DVK test correlate with scores on a test of the word collocation section of the DVK test for L1 and L2 students?

Research Question #5

Is there a difference in the degree of correlation between the word definition section (dvkm) of the revised DVK test and the word collocation section (dvkc) of the revised DVK test for L1 versus L2 students? (The revised test included only the words from the test that were taught to the treatment group).

Questions 4 and 5 looked at the relationship between word meaning and word collocation and the usefulness of rich lexical activities for increasing learners' in-depth word knowledge. To investigate the various research questions, a variety of statistical and qualitative measures were used. The SPSS statistical package 15 was used for the statistical analysis.

Research Question #1

Question 1 was concerned with the effect of explicit vocabulary instructional practices on learners' vocabulary knowledge. This question was based on theoretical

evidence from psychology and interaction hypothesis that claimed a positive role for attention to form, either in the form of noticing (Schmitt, 2000), explicit instruction, error correction or through more indirect means such as input enhancement (Norris and Ortega, 2000). The question was also influenced by DeKeyser's (2001) claim that adult learners learned at a faster rate because their capacities for explicit learning enabled them to take short cuts. As discussed in Chapters 2 and 3, an instructional treatment was considered explicit if rule explanation formed part of the instruction (consolidation) process, or if learners were asked to attend to particular forms (DeKeyser, 1995) as they tried to find the rules themselves (discovery). Conversely, when neither rule presentation nor directions to attend to particular forms happened to be part of a treatment, then that treatment was considered implicit (Norris and Ortega, 2000, p. 437). Currently, literature reflects two opposite perspectives about how L2 vocabulary should be learned. Most instructors are sold on Krashen's (1985) perspective that L2 instruction should provide comprehensible input for implicit learning to take place. In addition, there are the views of Swain (1985) and DeKeyser (1997) that claim a positive role for explicit instructional practices and pushed output in addressing the gap between knowledge and use. With these concerns in mind, question 1 was constructed.

1. Does vocabulary teaching lead to a gain in scores on the Productive Vocabulary Levels Test (PVLVT):
 - a) when taught implicitly? (control group)
 - b) when taught explicitly? (treatment group)

This research question tested three null hypotheses. First, the two instructional conditions (implicit and explicit) had no effect on the learning process of the learners. Second, there will be no difference in learners' pretest and posttest scores on the PVL T test. Third, the L1 and L2 learners were not affected by the differences in their proficiency levels as measured by the PVL T test.

The participants in the study were 129 students of approximately 18 – 23 years of age. This placed the subjects in the category of adult learners. The distribution of subjects according to the language, instructional group and class group is as outlined in table 5.1.

Table 5 1 : Distribution of Subjects by Language, Instructional Group and Class Group

Groups	Control (N=61)			Treatment (N=68)		
	A2-	B1-	C12-	A1+	B2+	D12+
L1		23	7	27		8
L2	15		15		19	15

(N=129)

Instructors = A, B, C, D

Treatment = +

Control = -

L1 students = 1

L2 students = 2

L1 + L2 students = 12

Three class groups (A2-, B1- & C12-) were identified as the control group (N= 65) and three class groups (A1+, B2+ and D12+) were identified as the treatment group (N= 64). All the students were required to sit for a pretest measure (PVL T [Version A]- Appendix B) to obtain a profile of their existing vocabulary level. It was a pencil and paper version, and thirty minutes was allocated for completion of the test. The tests was in five parts which represented the five levels of word frequencies in the English Language : the first 2000 words, 3000 words, 5000 words, the University word level

(beyond 5000 words) and 10,000 word level. Each level contained 18 items. The subjects had to take a parallel version of the PVLТ (Version B) at the end of the semester. It was expected that the mean of the posttest scores would be significantly higher than the mean of the pretest scores as instruction generally resulted in increased knowledge.

Overall Difference Between Control (Implicit) and Treatment (Explicit) Groups

The pretest and posttest means scores for the PVLТ tests are as presented in table 5.2. Incidentally, the words on the UWL are academic words, similar to the words on the Academic Word List (AWL) of the LFP measure.

Table 5 2: Mean and Percentage of Scores on PVLТ (Pretest & Posttest)

Group	Pretest					Posttest				
	2000	3000	5000	UWL	10000	2000	3000	5000	UWL	10000
Implicit	13.78	9.36	9.38	9.02	4.4	13.76	13.12	9	11.52	4.4
%	<i>76.56</i>	<i>52.00</i>	<i>52.11</i>	<i>50.11</i>	<i>24.44</i>	<i>76.44</i>	<i>72.89</i>	<i>50.00</i>	64.00	<i>24.44</i>
Explicit	13.89	9.09	9.07	8.83	5.54	12.47	12.17	7.96	9.49	3.92
%	<i>77.17</i>	<i>50.50</i>	<i>50.39</i>	<i>49.06</i>	<i>30.78</i>	<i>69.28</i>	<i>67.61</i>	<i>44.22</i>	52.72	<i>21.78</i>

N (92) Note: The increase at Posttest level is italicized in bold

The results indicate that there was an increase in the posttest scores for both implicit (control) and explicit (treatment) instructional groups. The control groups subjected to implicit learning conditions recorded an increase of 3.76 (+20.89%) at the 3000 word level and 2.5 (13.89%) for the University Word Level (UWL). The treatment groups subjected to explicit instruction recorded a gain of 3.08 (17.11%) at the 3000 word level and 0.66 (3.67%) at the UWL level. The difference in scores on the UWL for the control group (implicit) was obviously higher than the difference in scores for the treatment (explicit) group, but it was necessary to determine if the results were

statistically significant, and if one group was superior to the other. As the study involved a pretest and posttest measure, a repeated mean ANOVA was done to compare the difference between treatment types. All calculations were done using the SPSS statistical package version 15. The researcher was more interested in the interaction effect since a significant interaction in the results would reveal one treatment to be superior to the other.

Null Hypothesis One

The results for the repeated mean measure for testing null hypothesis 1 was of no group difference between treatment types, and the results are presented in table 5.3.

The treatment type was the between subject variable in the study.

Table 5 3: Tests of Between-Subjects Effects

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
UWL	18480.087	1	18480.087	418.921	.000**
Group (Treatment)	94.696	1	94.696	2.147	.146
Error	3970.217	90	44.114		

***significant effects are italicized in bold*

From the findings, the overall difference between the scores was statistically significant at $F(1, 90) = 4.18.921$ with $p < 0.001$. However, the group effect for the difference between the gains of the control group and the treatment group was not statistically significant at $F(1, 90) = 2.147$ with $p = 0.146$. Therefore, the first null hypothesis for group effect was accepted. There was no difference between the control (implicit) and treatment (explicit) instructional conditions.

Null Hypothesis Two

The repeated mean measure for testing within subject effects and the interaction effect for treatment types was presented in table 5.4. Null hypothesis 2, testing the effect of the within subject variable was rejected with $F(1, 90) = 11.179, p < 0.001$. There was a difference between the pretest and posttest scores for both control and treatment groups and the increase in UWL was statistically significant. It was evident that learning had taken place and both learners (control and treatment) had gained in the UWL at the posttest level. This finding was expected since instruction generally leads to a gain in knowledge.

Table 5 4: Tests of Within-Subjects Contrasts

Source	factor1	Type III Sum of Squares	Df	Mean Square	F	Sig.
UWL	Linear	97.587	1	97.587	11.179	<i>.001**</i>
UWL * group (Treatment)	Linear	65.761	1	65.761	7.533	<i>.007**</i>
Error(UWL)	Linear	785.652	90	8.729		

***significant effects are italicized in bold*

Null Hypothesis Three

Null hypothesis 3, testing the difference in scores based on within subject contrast proficiency level was rejected at $F(1, 90) = 11.179, p < 0.001$. The two way interaction between UWL and treatment type revealed that the subjects within the groups were affected by the initial proficiency levels of the subjects (as determined by the scores on the pretest of the PVL T). In addition, the different writings in the various control and treatment groups had experienced different levels of gains for the UWL. It is therefore

useful to plot the interaction effect for the different instructional groups, before identifying the specific differences within each class group.

Interaction Plot for Control and Treatment Groups

Figure 5.1 which showed the interaction of the control and treatment groups revealed that the performance for both control and treatment groups during the pretest and posttest were significantly different.

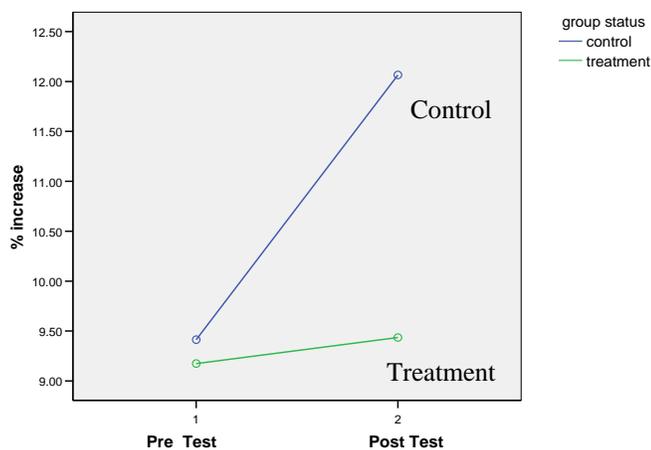


Figure 5 1: Interaction Plot for Instructional Groups

While both groups experienced an increase at the posttest level, the control group had experienced a higher increase compared to the treatment group. Then again, it has to be noted that control (implicit) group had begun from a higher percentage compared to the treatment (explicit) condition. Since both groups were comprised of a number of classes (subgroups), it was necessary to determine if all the individual class groups in the control and treatment conditions had experienced gains at similar rates.

Differences between Individual Class Groups

To determine the effect of the differences between the individual subgroups, a second repeated mean measure between the subgroups (classes) and UWL was conducted and the results are as presented in table 5.5. The various class subgroups were considered as the between subject variable in the study.

Table 5 5: Between-Subjects Effects.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
UWL	14351.454	1	14351.454	469.118	.000**
Subgroups (Classes)	1433.967	5	286.793	9.375	.000**
Error	2630.946	86	30.592		

***significant effects are italicized in bold*

From the results in table 5.5, it was possible to reject the null hypothesis 3 at $F(1, 86) = 9.375, p < 0.001$. The performances for the subgroups (classes) were different from one another, and performance was not affected by chance. In fact, the difference for the scores in the UWL levels for the various class groups was statistically significant at $F(1, 86) = 469.118, p < 0.001$. The output results for testing within subjects effects and the interaction effect are as presented in table 5.6. The null hypothesis that there was no difference between the gains in the class was rejected at $F(1, 86) = 7.507, p < 0.007$. The posttest scores for most of the classes in the subgroups were higher than the pretests scores.

Table 5 6: Tests of Within-Subjects Effects

Source	AWL	Type III Sum of Squares	df	Mean Square	F	Sig.
UWL	Linear	65.162	1	65.162	7.507	.007**
UWL * Subgroups (Classes)	Linear	104.944	5	20.989	2.418	.042*
Error(AWL)	Linear	746.470	86	8.680		

***significant effects are italicized in bold*

As for interaction effect, the results were found to be statistically significant at $F(1, 5) = 2.418, p < 0.05$.

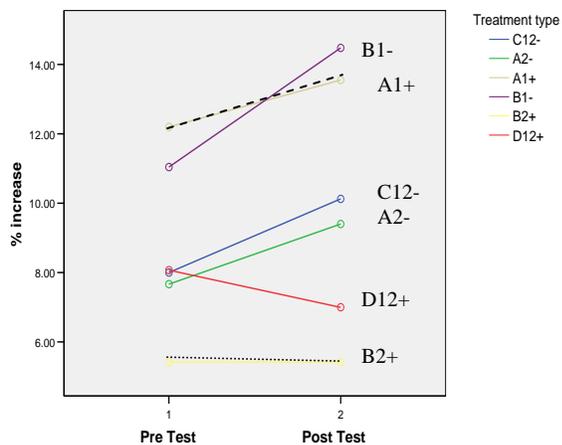


Figure 5 2: Interaction Plot for the Subgroups

The interaction plot in figure 5.2 provided a clearer picture of the two-way interaction effect for the various class groups. It was obvious that the subgroup (class) B1- (control [implicit]) had performed much better than A1- (treatment [explicit]), and this happened despite class A1- having started from a higher level during the pretest. Classes C12-, A2- (Control [implicit]) and D12+ (treatment [explicit]) had begun from a similar level, but it was class D12+ that had shown a loss indicating that instruction did not always lead to a gain in vocabulary learning. Class B2+, which began at the lowest level, did not experience any increase between pretest and posttest scores. At this point, it can be said that it was the performance of both classes C12- and D12+ could have affected the overall results. Therefore, it would be worthwhile to analyze the individual results of the various class subgroups.

Individual Subgroup Scores Based on Pretest and Posttest UWL Scores

To provide a detailed description of the actual scores of the various subgroups, the descriptive analysis of the various subgroups' performances was presented in table 5.7.

Table 5 7: Pre and Post UWL Scores by Ability

Group	UWL	Mean	%	SD	SEM	Gain (%)
B1-	Pre	11	61.4	4.92	1.03	
	Post	14.5	80.4	3.53	0.74	19.1
C12-	Pre	6.8	38	4.2	1.21	
	Post	9.8	54.2	3.61	0.9	16.2
A1+	Pre	11.3	63	3.21	0.67	
	Post	13	72.4	3.88	0.78	9.4
A2-	Pre	7.7	42.9	5.08	1.36	
	Post	8.9	49.6	3.47	0.9	6.8
B2+	Pre	5.4	30.2	4.88	1.3	
	Post	5.9	32.7	5.8	1.37	2.6
D12+	Pre	7.8	43.3	5.92	1.32	
	Post	6.1	33.6	6.12	1.44	-9.7

**gains are italicized in bold*

Instructors = A, B, C, D

Treatment = +

Control = -

L1 students = 1

L2 students = 2

L1 + L2 students = 12

It can be deduced from the gains that the classes within the control (implicit) group (B1-,C12-, A2-) had gained by approximately 6.8% to 19.1%. The classes that had begun with a higher UWL (A1+ & B1-) experienced even greater gains at the posttest levels. The classes in the treatment (A1+, B2+) gained by about 2.6% to 9.4% and class D12+ experienced a loss by -9.7%, indicating that groups that had begun with a lower UWL level (B2+ & D12+) generally experienced smaller gains or decreased as indicated in the case of class D12+. The gains for the combination classes (C12- [implicit instruction at 16.2%] and D12+ [explicit instruction at -9.7%]) seem to be rather

high. While the results in table 5.6 indicate that there is positive effect for vocabulary learning in both control and treatment instructional groups, the effect was dependent upon the proficiency levels and pretest scores of the subjects. Also, the fact that the largest difference was experienced by class C12- (implicit instruction at 16.2%) and D12+ (explicit instruction at -9.7%) certainly suggests that classes that are made up of a combination of L1 and L2 learners learned differently from all native speakers and all non native speaker classes. In sum, it can be said that although there was no statistical difference between the control (implicit) and treatment (explicit) instructional conditions, the gain in scores for the implicit learning groups was higher than that of the explicit learning group. However, this performance seems to be effected by differences in pretest scores with those who had a higher initial score showing greater gains.

Research Question #2

Question 2 was concerned with the relationship between holistic assessments of L2 learners' writings and word use. As discussed in Chapter 2, a number of studies have addressed the importance of productive vocabulary and receptive vocabulary. Having a large vocabulary size does not necessarily mean being able to use it well since knowing a lot of words included the ability to use them well. The theoretical basis for the question was that an increase in academic word size in subjects' essays would have positive effects on learners' academic performance (Laufer, 1997). In addition, subjects who used a higher percentage of academic vocabulary would be able to use more appropriate content words in their academic writings. The purpose of the test design was to compare

the level of frequent words use and infrequent word use of L2 learners in their academic writings. It was intended to determine whether there was indeed a relationship between grades and words use as so widely claimed in L2 studies. It was also useful to determine whether instructors were able to help L2 students in their writings by providing clarifications in the form of error corrections and feedback, especially when learners avoided using unfamiliar and complex word structures for fear of making mistakes. With these issues in mind, question 2 was formulated.

2. Do average grades on the students' essays (E1, E2, E3) correlate with scores on the AWL section of the Lexical Frequency Profile (LFP) for L1 and L2 subjects?

The academic word size is measured by the Lexical Frequency Profile (LFP). The academic words in the LFP test are known as AWL. The data for the test were the three academic essays (E1, E2, and E3) and the final grading scores for the papers. The grading scores were provided in the form of numerical scores as well as grades. Most of the subjects obtained either an A or a high B. For the purpose of this question, scores rather than grades were used for the analysis. The distributions of the scores according to the grades are as provided below:

A = 99 -90 (excellent) B= 89- 80 (good) C =79- 70 (satisfactory)

D =69 -50 (poor) E = 50 and below (failure)

Each subject contributed three essay scores for the study. The essays were submitted during three separate occasions. Essay 1 (E1) was submitted on the first week

of February, Essay 2 (E2) was submitted in mid March, and Essay 3 (E3) was submitted between the last week of April to the first week of May, 2007. E1 was submitted just as the subjects had begun working on the treatment (1-2 weeks) and therefore the instruction could not be seen as having affected the subjects' word use. All essays were downloaded from the online course website. The essays were analyzed via http://www.er.uqam.ca/nobel/r21270/texttools/web_vp.html to determine the Lexical Frequency Profile for each essay.

Results

To determine whether the average grades (scores) had an effect on subjects' academic word use, the researcher examined two independent variables. The first was the percentage of academic word use as measured by the AWL section for E1, E2 and E3, and second was the average mean scores assigned by the instructors for the essays. The overall mean and standard deviations for L1 and L2 learners were as presented in table 5.8.

Table 5.8: AWL Scores on the Essays (E1, E2, and E3) and Essay Scores

Status	Essays	Mean (%) ^a	SD	N	Scores	SD
L1	E 1	5.41	2.38	67	85.8	13.35
	E 2	5.15	2.53	67		
	E 3	5.05	2.76	67		
L2	E 1	5.2	2.41	62	85.2	13.39
	E 2	4.92	2.58	60		
	E 3	4.89	2.25	62		

^aaverage percentage of words from the Academic Word List found on each essay

There was a difference within the average percentage of AWL word use for all three essays for both L1 and L2 subjects. The academic words had contributed to

approximately five percent of the overall words found in L1 subjects' essays (E1= 5.4 %, E2= 5.1 %, & E3= 5 %). As for the L2 subjects, the percentage of academic words found in Essay 1 was approximately five percent (E1= 5.2 %) while the academic words in E2 and E3 were approximately 4.9 %. The average scores in terms of overall grades for L1 and L2 subjects were 85.8 and 85.2 points respectively. These scores placed most L1 and L2 students in the B category, which was considered as good. While the L2 subjects had clearly used less academic words compared to the L1 subjects, it was not possible to explain the relationship between the high grades and words based on percentages alone.

Correlation Effect

To answer the question, a Pearson Product Moment correlation was done for both L1 and L2 learners AWL scores on the essays (E1, E2, and E3) and the overall average essay scores assigned by the instructors. Table 5.9 provides the results of the analysis. The results in table 5.9 indicate that the AWL for third essay (E3) was significant for L1 subjects at $r = .307$. With total variance expressed as a proportion equal to the coefficient of determination, $r^2 = (.31)^2 = 0.094$ and coefficient of non determination, $K^2 = (1 - r^2) = 1 - 0.094 = 0.906$, it was possible to suggest that approximately $(0.094 \times 100 = 9.4\%)$ or almost 10 % of the scores (grades) in the L1 subjects' E3 can be related to the academic words used in E3. Then again, 90% of the variance of the scores was related to additional variables that were unaccounted for in the study.

Table 5 9: Correlation Effect between Learner Grades and Essays

Learner	Essays		E1	E2	E3	Grades
L1	E1	Pearson Correlation	1	.220	.290(*)	.139
		Sig. (2-tailed)		.074	.017	.267
		N	67	67	67	66
	E2	Pearson Correlation	.220	1	.085	.199
		Sig. (2-tailed)	.074		.496	.110
		N	67	67	67	66
	E3	Pearson Correlation	.290(*)	.085	1	.307(*)
		Sig. (2-tailed)	.017	.496		.012
		N	67	67	67	66
	Average Essay Scores	Pearson Correlation	.139	.199	.307(*)	1
		Sig. (2-tailed)	.267	.110	.012	
		N	66	66	66	66
L2	E1	Pearson Correlation	1	.365(**)	.385(**)	.142
		Sig. (2-tailed)		.004	.002	.272
		N	62	60	62	62
	E2	Pearson Correlation	.365(**)	1	.257(*)	.026
		Sig. (2-tailed)	.004		.048	.843
		N	60	60	60	60
	E3	Pearson Correlation	.385(**)	.257(*)	1	.139
		Sig. (2-tailed)	.002	.048		.281
		N	62	60	62	62
	Average Essay Scores	Pearson Correlation	.142	.026	.139	1
		Sig. (2-tailed)	.272	.843	.281	
		N	62	60	62	62

* Correlation is significant at the 0.05 level (2-tailed). ^aSignificant levels are italicized in bold

** Correlation is significant at the 0.01 level (2-tailed).

As for the L2 essays, there was no relationship between grades and academic words though there was a significant relationship between the various levels of AWL in E2 and E3 for the L2 subjects. It was possible to deduce that the scores the instructors assigned to the essays for the L2 subjects were not influenced by their academic word use. As this point, it was necessary to analyze some of the L1 and L2 learners' essays to determine

the differences between academic word use of L1 and L2 subjects writings and how it could have influenced the grading criteria.

ANOVA

To determine the differences between L1 and L2 subjects' word use, a repeated measure analysis of variance (ANOVA) was conducted for the AWL of E1, E2 and E3 for all subjects. Each participant reported three scores that were not totally independent of each other since the final essay involved a revision of one of the earlier essays. The alpha level for the analyses was set at 0.05 for test of significance. The results were as provided in table 5.10. The level of academic word use (AWL) was statistically significant at $F(1, 123) = 1152.238, p < 0.001$.

Table 5 10: Tests of Between-Subjects Effects

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
AWL	9904.835	1	9904.835	1152.238	.000**
Language	1.848	1	1.848	.215	.644
Instructional group	62.404	1	62.404	7.259	.008**
Language + group ^a	52.369	1	52.369	6.092	.015*
Error	1057.329	123	8.596		

* Significant effects are italicized in bold

^aTwo way interaction between instructional group and language group

The level of word use between control (implicit) and treatment (explicit) group were statistically significant at $F(1, 123) = 7.259, p < 0.05$. The two-way interaction between the groups and L1 and L2 subjects was also statistically significant at $F(1, 123) = 6.092, p < 0.05$. Since the analysis revealed a significant difference between the means of the instructional groups, an analysis for the within subjects effects for both L1 and L2

learner and instructional groups was conducted. The ANOVA for testing the within subject variable is presented in table 5.11.

Table 5 11: Tests of Within-Subjects Contrasts

Source	EAWL	Type III Sum of Squares	df	Mean Square	F	Sig.*
AWL	Linear	11.384	1	11.384	2.804	.097
	Quadratic	1.141	1	1.141	.231	.631
AWL+ language	Linear	.002	1	.002	.001	.982
	Quadratic	.728	1	.728	.148	.701
AWL + instructional group	Linear	3.782	1	3.782	.932	.336
	Quadratic	3.928	1	3.928	.796	.374
AWL + language + group	Linear	2.620	1	2.620	.645	.423
	Quadratic	38.084	1	38.084	7.720	.006*
Error(AWL)	Linear	499.325	123	4.060		
	Quadratic	606.770	123	4.933		

* Significant effects are italicized in bold

There was a significant effect for academic word use when compared with L1 and L2 performance and treatment types at $F(1, 123) = 38.084$, $p < 0.05$. In other words, there was a significant difference within the performance of the L1 and L2 learners when viewed from within the groups themselves.

Interaction Plot

It was possible to deduce from the interaction plot in figure 5.3 that the two control and treatment groups were not very different for essay 1 (+5.25). However, with essays E2 and E3, the treatment (explicit) group had superseded the control group in terms of academic word use suggesting that instruction did have an effect on the level of academic word use.

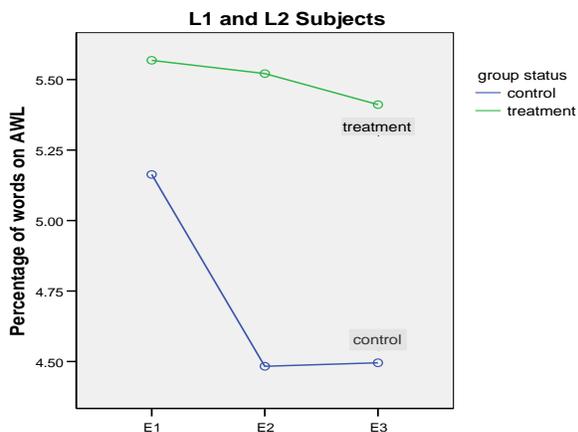


Figure 5 3: Interaction Plot for Groups by Word Use for E1, E2 and E3

In terms of instructional groups and word use, figure 5.3 indicated that the subjects in the treatment group had decrease their academic word use for the second essay (E2). The control group had more sharply reduced their word academic word use for E2 and had not made any effort to increase their word use for E3. As this point it was necessary to identify if the difference types of instruction had affected both L1 and L2 subjects in a similar manner.

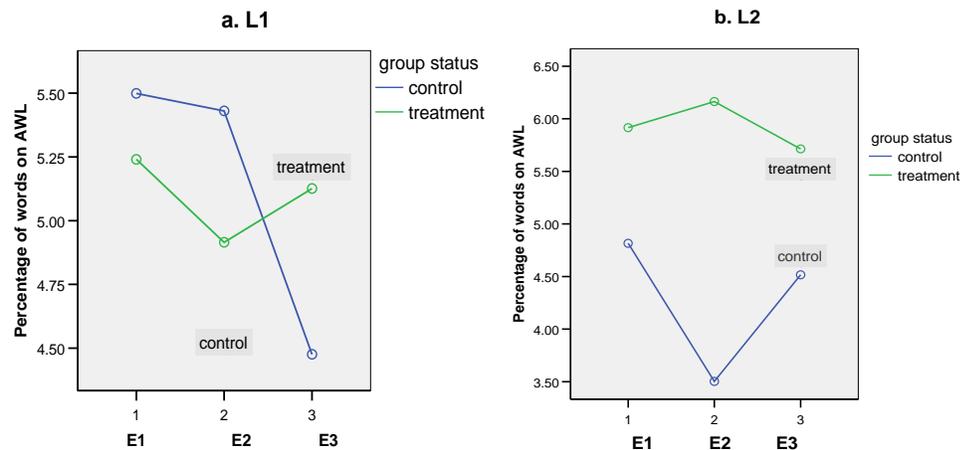


Figure 5.4: Interaction Plots for L1 and L2 Subjects by Essays

From figure 5.4 (b) it is possible to say that the L2 subjects in the control group had not increased their academic word use for E2, but increased their AWL for E3. The L2 learners in the treatment group however had increased their academic word use for E2 but reduced their academic word use for E3. This was different from the performance of the L1 subjects in the treatment group, who had decreased their AWL scores for E2, but increased their scores for E3. Within the L2 group, the treatment subjects and the control subjects behaved very differently. In addition, the L2 subjects in the treatment group appeared to have behaved in the same manner as the L1 subjects in the control condition in figure 5.4 (a). It was therefore useful to examine the various subgroups' performance in order to obtain a better insight of L2 learners' academic word performance in E1, E2 and E3.

Interaction Effect for (Class) Subgroup's Ability

To determine whether the L2 learners' AWL performance was related to chance, it was necessary to determine the performance of the various L1 and L2 subjects involved in the group. The average mean scores for the individual class (subgroups) AWL for the various essays (E1, E2, & E3) were plotted as indicated in figures 5.5 and 5.6.

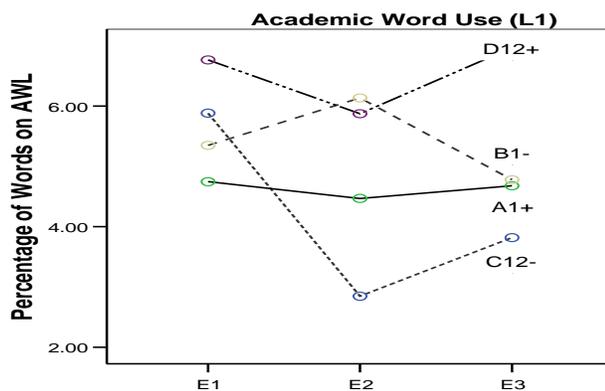


Figure 5 5: Academic Word Use for L1 Subjects

The results in figure 5.5 showed that the L1 subjects involved in both treatment and control groups had used more AWL words for the first essay but reduced the words for the second essay except for Group B1- which seemed to have increased the AWL for E2.

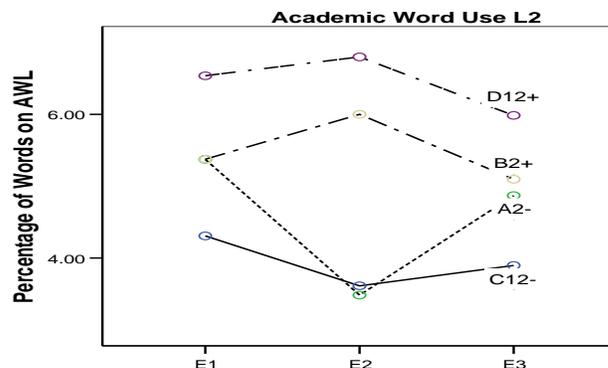


Figure 5.6: Academic Word Use for L2 Subjects

Instructors = A, B, C, D

Treatment = +

Control = -

L1 students = 1

L2 students = 2

L1 + L2 students = 12

From figure 5.6, it is evident that there was an increase in AWL for E2 for the treatment (explicit) groups (D12+, B2+). This rise suggests that explicit form focused instruction did have an immediate effect on L2 learners word use. In this situation the performance of the L2 learners in the treatment group was consistent and predictable. However, the L2 learners appear to have returned to their original level by the third essay. In addition, the L2 learners in groups D12+ and B2+ had used the largest number of academic words for the second essay.

Academic Word Use by Ability

Table 5.12 shows the academic word use of both L1 and L2 subjects in the study. From the data, it is evident that the L2 learners in the treatment groups

(D12+ & B2+) used more AWL words for the various essays (E1, E2, E3) compared to the L2 learners from the control groups, and this was true even when the standard error of mean (SEM) and confidence level were taken into account.

Table 5 12: L1 and L2 Learner's Overall Academic Word Use by Ability

Groups	Treatment type	Mean	SEM	95% Confidence Interval	
				Lower	Upper
L1	D12+	6.537	.463	5.620	7.453
	B1-	5.421	.334	4.759	6.083
	A1+	4.631	.314	4.008	5.254
	C12-	4.182	.655	2.886	5.479
L2	D12+	6.440	.484	5.483	7.397
	B2+	5.490	.368	4.762	6.219
	A2-	4.576	.401	3.782	5.369
	C12-	3.939	.429	3.090	4.788

a. based on modified population marginal means * Gains are italicized in bold

Instructors = A, B, C, D

Treatment = +

Control = -

L1 students = 1

L2 students = 2

L1 + L2 students = 12

Then again, it must also be noted that the L1 subjects in group D12+ had also used a large number of academic words throughout the study. The very fact that the L1 and L2 classes taught by instructors D and B used some of the highest level of AWL must also be acknowledged. It is possible that both instructor and instruction type played a role in AWL word use for these classes. Then again, word quantity alone does not determine good essays and quality must also be investigated. To explain actual word use in relation to quantity and quality of writings, lexical density will be examined as well.

Lexical Density

Lexical density is an important criterion for assessing writing performance. It is concerned with the percentage of lexical (content) words compared to grammatical (or function words) and seen as one characteristic that distinguished written from spoken language. According to Ure (1971), more than 40 % of words in a written text are lexical, whilst spoken text consists of less than 40% (cited in Read, 2000). A higher percentage of content words is an indicator that the information contained in written text has been presented in a more concentrated manner. A token is an individual instance of a word. A type refers to the instances of the same token. The phrase “...*to be or not to be*” would consist of 6 tokens (*to, be, or, not, to, be*) and 4 types (*to, be, or, not*). A word family includes all morphological variations of a word e.g., *run, runs, ran, and running*. To determine the actual word types and word tokens (individual words) used by the L1 and L2 learners in their essays, 20 L1 essays and 20 L2 essays were randomly selected and compared with their LFP outputs. For the purpose of analysis, the second paragraphs of five essays are explained. The words in bold were deleted during the LFP analysis since they were proper nouns. The table in figure 5.7 provides the number of word tokens, types and families used by L1 and L2 subjects in the study. The function and content words serve as indicators of whether the essay happened to be lexically dense or otherwise. The excerpt in figure 5.7 contained 129 words (tokens) which can also be summarized as consisting of 68 word families and 78 word types.

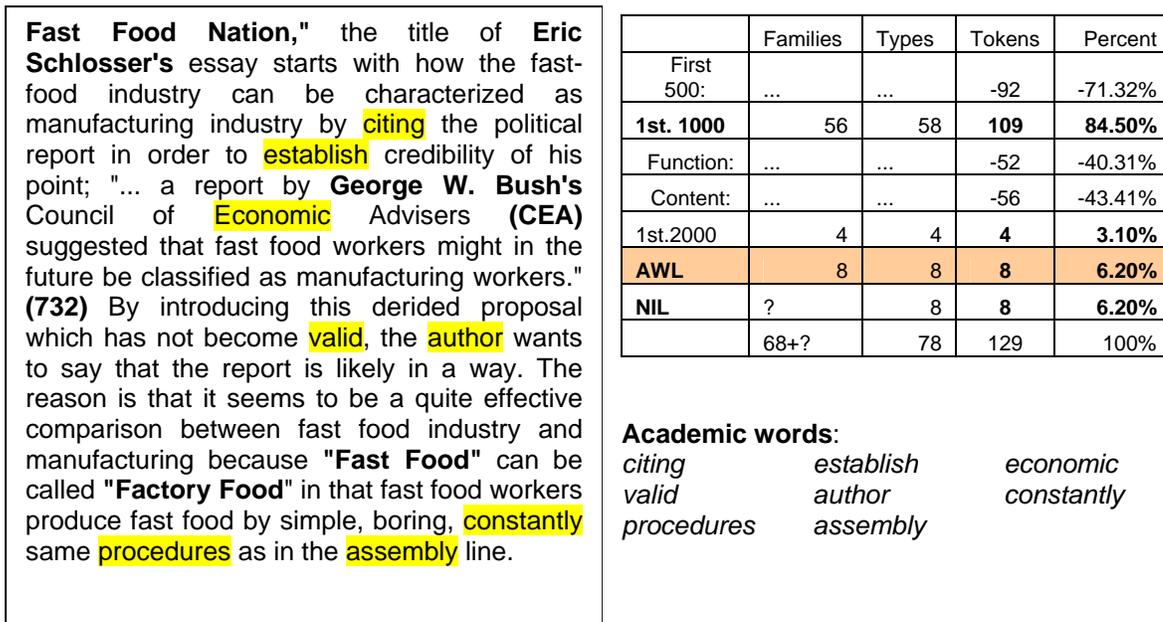


Figure 5 7: Excerpt from L2 learners' Essay and the Lexical Frequency Profile

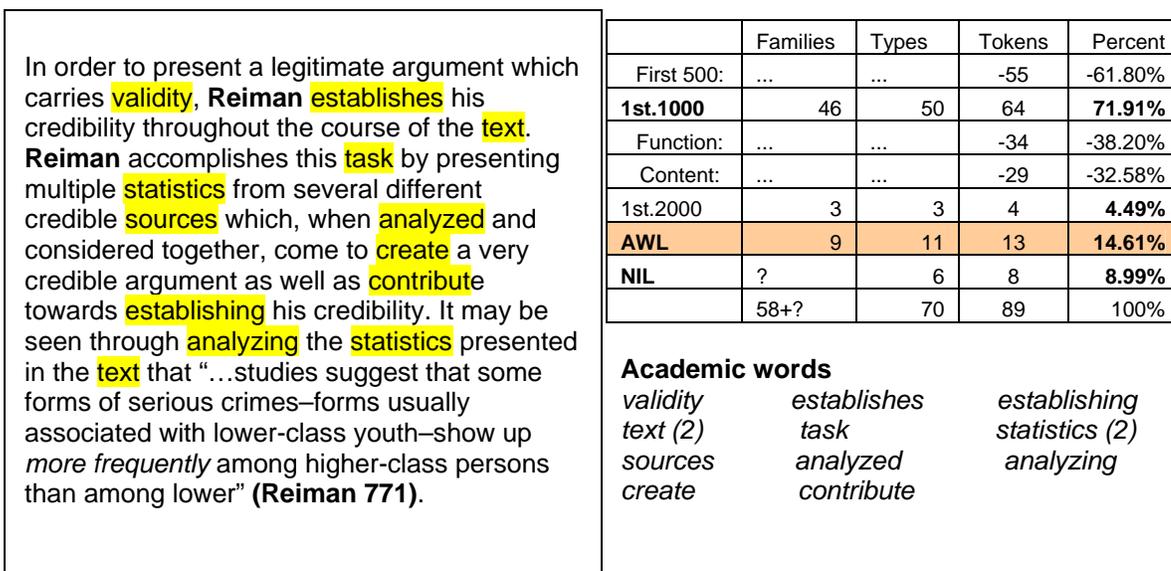


Figure 5 8: Excerpt from L1 learners' Essay and the Lexical Frequency Profile

In terms of profile, 84.5% of the words used were from the first 1000 words of the English language, 3.10% were from the 2000 word list and 6.2% were from occasional words that were from the *Not In List (NIL)* category.

The excerpt in fig.5.8 contained only 89 words and 14.61% of the words used were academic words. The instructor identified the excerpt in figure 4.8 to be the better essay in terms of lexical density and appropriate word choice. Incidentally the excerpt in figure 5.8 came from an L1 subject's essay.

Topic and Word Use

Because topic happens to be a variable that could affect word use, essays written on parallel topics were assessed in relation to the grades allocated. Figures 5.9- 5.11 provide excerpts from three essays. The excerpt in figure 5.9 was written by an L1 subject while both the excerpts in figures 5.10 and 5.11 were written by L2 subjects.

<p>a. First, allow free, yet fair, trade between the U.S. and Mexico to benefit the citizens and not the corporations. Thus far the effects on NAFTA have been terrible for Mexican farmers. As the Economist put it, "tariff reductions have occasioned the gloomiest predictions about the decline and fall of the entire agriculture sector, the end of the Mexican countryside, even the demise of the tortilla, the staff of Mexican life". We can help fix this problem by reforming how agricultural subsidies are implemented and by ending the process known as dumping. That way, Mexican farmers will not be out competed by government-subsidized American ones and therefore will not come to America in search of work.</p>		Tokens	Percent
	K1 Words (1 to 1000):	83	70.94%
	Function:	(56)	(47.86%)
	Content:	(27)	(21.37%)
	K2 Words (1001 to 2000):	8	6.84%
	AWL Words (academic):	10	8.55%
	MED Words (technical):	3	2.56%
	Not In List:	13	11.11%
		117	100%
		98 points	

Figure 5 9: Writing Sample of L1 Subject

The excerpt in figure 5.9 contained 117 words out of which 56 words (47.86%) were function words and 61 words (52.13 %) were content words. Though not high in terms of lexical density, the whole essay was awarded 98 out of 100 points, making it one of the better essays in the subject pool. Noteworthy is the fact that the subject had used a larger number of academic words (8.55%) compared to the words at the 2000 word level (6.84%). The subject had also used a number of technical words (2.56%).

The excerpt in figure 5.10 contained 107 words and used a larger percentage of academic words (13.08%). The subject had used fewer words from the 2000 word level (10.28%) and (1.87%) technical words. The essay had been awarded 95 points out of a total of 100 points.

<p>b. One of the solutions that have been proposed by the government to minimize problems is the guest worker program. Basically, the guest worker program allows foreign workers to work in America legally and after certain years of working, the workers have to go back to their countries to renew their visas. The program, even though it is created to solve illegal immigration issues, has been questioned frequently about its effects on American society such as its impact on the economy, and national security. Especially, business experts predict many situations that may be caused by the program, and often these opinions are separated in two categories: negative and positive.</p>		Tokens	Percent
	K1 Words (1 to 1000):	79	73.83%
	Function:	(47)	(43.93%)
	Content:	(32)	(29.91%)
	K2 Words (1001 to 2000):	11	10.28%
	AWL Words (academic):	14	13.08%
	MED Words (technical):	2	1.87%
	Off-List Words:	1	0.93%
		107	100%
		95 points	

Figure 5 10: Writing Sample of Proficient L2 Subject

<p>c. Numerous prisoners currently on Korea's death row have completed the appeals process and face execution on a daily basis. For the government to order their execution simply requires the paper work to be completed and signed (Park, condemned to death). The majority of prisoners sentenced to death in Korea are condemned to a lifetime under conditions that amount to cruel inhuman and degrading treatment and are contrary to the international treaties to which Korea has agreed. Many prisoners suffer from mental disabilities due to the conditions under which they are detained. The Korean government must review the country's use of the death penalty as a matter of urgency.</p>		Tokens	Percent
	K1 Words (1 to 1000):	42	69.44%
	Function:	...	(45.37%)
	Content:	...	(24.07%)
	K2 Words (1001 to 2000):	8	10.19%
	AWL Words (academic):	5	4.63%
	MED Words (technical):	2	1.85%
	Off-List Words:	11	13.89%
		108	100%
		85 points	

Figure 5 11: Writing Sample of Less Proficient L2 Subject

In the excerpt in figure 5.11, the writer used more words from the 2000 word level (10.19%) and a higher percentage of function words (45%). The overall score for the essay was only 85 points and these points resulted in the essay being awarded a lower grade than the earlier essays. Table 5.13 provides an outline of percentage of word use at the 2000 and AWL level for the three excerpts.

Table 5 13: Word Use at 2000 and AWL Levels

<i>Excerpts</i>	<i>1st. 1000 words %</i>	<i>1st. 2000 words %</i>	<i>AWL (%)</i>	<i>Technical+ MED (%)</i>	<i>NIL (%)</i>	<i>(scores)</i>
A (L1)	70.94	6.84	8.55	11.11	11.11	98
B (L2)	73.83	10.28	13.08	1.87	0.93	95
C (L2)	69.44	10.19	4.63	1.85	13.89	85

From table 5.13, it can be seen that the L1 subject (A) used less words from the 2000 word level (6.84%) but used more words from the AWL (8.55%). The L2 subjects (B & C) seem to use more 2000 words but B(L2) seemed to have used a higher percentage of academic words (13.08 %) while the second L2 subject (C) used less AWL (4.63%). The AWL therefore could have been an indirect factor in the grading criteria.

Overall, the findings for this question did not show a direct relationship between grades and academic word use for L2 learners. Nevertheless, there was such a relationship between the L1 subjects' essay grades and academic word use and the results were significant. The in-depth analysis of the academic word use for the various essays (E1, E2, and E3) revealed that explicit (treatment) vocabulary instruction did have a positive effect on L2 subjects' academic word use for the second essay (Figure 5.6). The pattern of word use for L2 learners in the treatment group was similar to that of the L1 learners in the control (implicit) group. The analysis of lexical density indicated that academic words can have an effect on the way instructors assessed subjects' essays. While L2 learners continue to rely on the words from the 2000 word level, an increase in academic word use can effect the overall grades as well, as in the examples just discussed.

Research Question #3

Research question 3 deals with DeKeyser's (2001) view that SLA research cannot ignore the interaction of learning conditions and linguistic features (p.337) with learners' vocabulary proficiency. In addition, there is concern that SLA researchers must make a concerted effort to vary learning targets systematically along psycholinguistically

relevant dimensions. While meaningful input and implicit learning remain relevant to vocabulary acquisition, it has been argued that adult L2 learners acquire the language differently from L1 speakers and young L2 learners (Ullman, 2005). In addition, comprehensible input alone is seen as insufficient for L2 learners to increase their vocabulary knowledge. As explained in Chapters 2 and 3, L2 learners require explicit (form-focused) instruction due to limitations in their learning environment. Because adult learners can take shortcuts and analyze through explicit learning practices, explicit instruction of high frequency vocabulary will help them optimize their academic ability. The theoretical orientation for this question is in line with language testing research (Laufer, 2005, 2006) that insists that vocabulary, like grammar, needs explicit form-focused instruction (form-focused), and vocabulary should be made an integral part of the language learning syllabus. Then again, as Liu and Shaw (2001) point out, any attempt to justify a more lexically based teaching environment has to be based on systematic evidence that shows that L2 learners do indeed have different kinds of lexical knowledge compared to L1 speakers, and they require specific attention to address the gaps in their learning during instruction. This question therefore aims to demonstrate that L2 learners do begin with different vocabulary knowledge and a different level, and through explicit form-focused instruction and practices, are able to increase their vocabulary knowledge much more rapidly than learners learning from within an implicit and meaningful instructional environment.

The form-focused instruction provided to the treatment group was assumed to be threefold: a) to provide clear-cut categorical rules through task-based activities, b) to

make form meaning connections during feedback, and c) to provide extensive elaboration and practice. For the weaker L2 learner, the instructional goal was not only to increase their word size, but also to draw attention to the forms so that the students consolidated them through repeated exposures. With all these factors in mind, question 3 was formulated.

3. Is the gain in vocabulary scores on the PVLТ for the treatment (explicit) group (fonf/ fonfs) greater than the gain in scores for the control (implicit) group (comprehensible input) for both L1 and L2 students?

Results

Question 3 was based on three null hypotheses. First, there is no difference between the performance of the L1 and L2 subjects. Second, the instructional activities (as measured by the PVLТ) had no effect on the performance of the L1 and L2 subjects. Third, the gain on the PVLТ test for the L2 treatment group was affected by the students' proficiency levels. To refute these claims, it was necessary for the researcher to demonstrate that there was a) a difference between the L1 and L2 learners, b) that the L2 subjects were affected by proficiency levels, and c) the fonf and fonfs activities provided to the treatment group did have an effect on the L2 subjects, but it was related to proficiency levels. Each subject contributed two scores to the data. The scores were from the pretest and posttest measures of the PVLТ. To determine that the treatment contributed to a gain in the posttest UWL scores for the L2 learners, and that learners'

development was affected by proficiency, it was necessary to determine threshold vocabulary. The 2000 word level was considered as the initial threshold and subjects who scored beyond 80% at the 2000 word level were considered to be proficient in this study. Two independent variables were considered for this question: a) treatment type and b) language group (L1 and L2 learners). The scores for both 2000 words and AWL for the L1 and L2 groups and the treatment types are presented in Table 5.14.

Table 5.14: Differences between L1 and L2 Pretest and Posttest Scores

		2k				UWL			
		Pre	SD	Post	SD	Pre	SD	Post	SD
L1	Control	15.440	2.083	15.966	1.210	11.160	4.732	13.724	3.844
	treatment	15.581	2.754	14.970	3.046	11.968	2.601	12.545	4.206
L2	Control	12.120	3.551	12.120	3.707	6.880	4.447	9.077	3.346
	Treatment	11.708	4.428	11.708	4.796	4.792	4.890	5.292	5.409

* Gains are italicized in bold

As indicated in table 5.14, the L1 subjects had begun with a higher 2000 word level and AWL (approximately +15.5 and +11.5) while the L2 subjects began with a lower score for the 2000 (+12) and AWL (6.8 and 4.8). (The total score for each level was 18). This made it evident that there was a difference between the L1 and L2 learners 2000 word level and UWL. The L2 learners were also affected by a difference within the L2 group where the L2 subjects in the control group had a slightly higher 2000 word score and a much higher score at the UWL than the L2 subjects in the treatment group. In addition, the treatment groups (especially the L2 group) were more heterogeneous compared to the control groups. At the posttest level, both L1 and L2 subjects in both control and treatment conditions gained, showing that general writing instruction did have a positive effect on the learning process. While the L1 subjects in both instructional

groups experienced slight gains at the UWL level (1-2), the L2 subjects in the control (implicit) group experienced a much higher gain (2+) than all other groups in the study. The L2 subjects in the treatment (explicit) condition experienced a very small gain (+0.4).

Null Hypothesis One

To determine as to whether the differences between L1 and L2 subjects were statistically significant, a repeated mean measure was done and the results are as presented in table 5.15.

Table 5.15: Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	<i>Sig.</i> *
UWL	16189.448	1	16189.448	628.048	<i>.000</i> **
Instruction	192.417	1	192.417	7.465	<i>.008</i> **
Language	1598.714	1	1598.714	62.020	<i>.000</i> **
Instruction + Language	120.280	1	120.280	4.666	<i>.033</i> *
Error	2268.413	88	25.777		

** *significant effects are italicized in bold*

The test design for the question was a repeated mean measure ANOVA with two independent variables: Instruction and Language. The dependent variable in this question was the pretest and posttest UWL measure. From the findings in table 5.15 it was possible to reject null hypothesis #1 at $F(1, 88) = 62.020, p < 0.001$. There was a difference between the L1 and L2 subjects. The language groups were different from one another and the results were highly significant. It was possible to deduce from the

average means scores in table 5.14, that the L1 group was superior to the L2 learners in both control and treatment conditions.

Null Hypothesis Two

From table 5.15, it was possible to state that there was a difference between the instructional treatment and the performance for the language groups. It was possible to reject Null hypothesis 2 at $F(1,88) = 7.465$, $p < 0.05$ and the results were statistically significant. There was a difference between the pretest and posttest scores for both L1 and L2 learners. In addition, the two way interaction effect between instruction and language groups indicated that both language and instruction were factors affecting learners performance at the AWL level.

Null Hypothesis Three

Table 5 16: Difference Within Pretest and Posttest Scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
AWL	89.029	1	89.029	10.062	.002
AWL * Instruction	64.040	1	64.040	7.238	.009
AWL * language	5.904	1	5.904	.667	.416
AWL * Instruction * language	.993	1	.993	.112	.738
Error(AWL)	778.653	88	8.848		

**significant effects are italicized in bold*

In terms of the effect of proficiency levels for language groups (L1 and L2 learners), Null hypothesis 3 was accepted at $F(1, 88) = 0.667$, $p = 0.419$. Although there was a difference for the instruction, at least one of the language groups was affected by proficiency levels from within the group. It was necessary to examine the descriptive data

to determine the classes that had been affected by proficiency levels. From the findings in table 5.16, it was determined that that both language and instruction had experienced increases at the posttest and therefore it necessary to examine the interaction effect.

Interaction Effect

From the interaction plot in figure 5.12 it appeared that the L2 learners in the treatment group had not benefited from the treatment, but this could be related to the threshold vocabulary. It was therefore necessary to examine the pretest vocabulary levels.

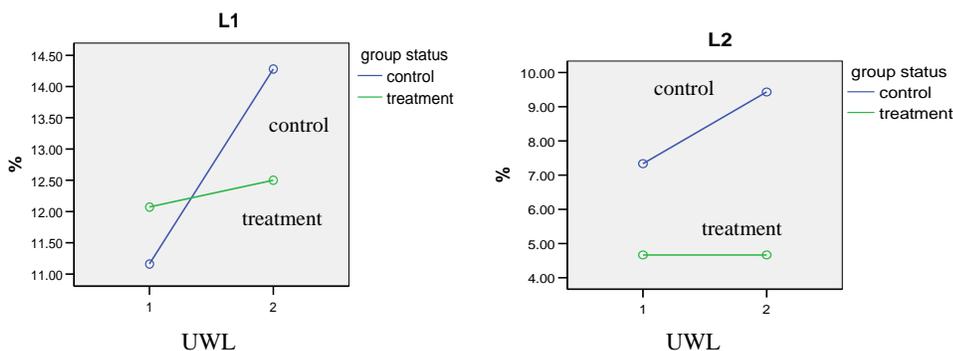


Figure 5.12: Interaction Plot for L1 and L2 Subjects' Performance

From figure 5.12, it is obvious that the L1 and L2 groups had started off from different levels of proficiency, and this could have had a threshold effect on the performance of the L2 learners. In addition, some of the L1 subjects in the control group, obtained more than 14 (out of 18) on the posttest, and their scores had not been reflected in table 5.13. The very fact that the L2 groups were relatively heterogeneous (4- 5 % difference)

made it necessary to determine if the proficient learners performances could have been overlooked during the analysis.

The Effect of Proficiency Levels

A repeated mean measure was conducted only for subjects who had scored 14 and above (approximately 80%) at the 2000 word level (pretest scores) in the PVLТ. This group was named as the modified group. There were 41 subjects for the L1 modified group and 15 for the L2 modified group. This involved 28 subjects for the control and 28 subjects for the treatment. The results are shown in Table 5.17. The main effect of language groups was significant $F(1, 52) = 16.066, p < 0.001$.

Table 5 17: Test of Between Modified Treatment and Language Groups (>80% @ 2000 level)

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
UWL	11435.555	1	11435.555	900.623	.000
Language	204.001	1	204.001	16.066	.000
Instruction	21.497	1	21.497	1.693	.199
Language + Instruction	.166	1	.166	.013	.909
Error	660.264	52	12.697		

Note. * $p < .0001$, based on Greenhouse-Geisser correction * Significant levels are italicized in bold

The SPSS output for testing the within subjects effects and interaction effects are presented in table 5.18. The results were not significant, and this could be related to the small effect size.

Table 5 18: Tests of Within Modified Treatment and Language Groups (>80% @ 2000 level)

Source	UWL	Type III Sum of Squares	df	Mean Square	F	Sig.
UWL	Linear	32.767	1	32.767	4.012	.50
UWL+ language	Linear	.046	1	.046	.006	.941
UWL+ Instruction	Linear	.431	1	.431	.053	.819
UWL +language	Linear	12.988	1	12.988	1.590	.213
Error(UWL)	Linear	424.652	52	8.166		

Note. *p<.001

The interaction plot in figure 5.13, however, indicated that the modified L2 learners' performances were different once the scores of only subjects who obtained 80% above at the 2000 word level were analyzed. However, the sample size was rather small. Then again, there still a wide difference between the L1 and L2 groups.

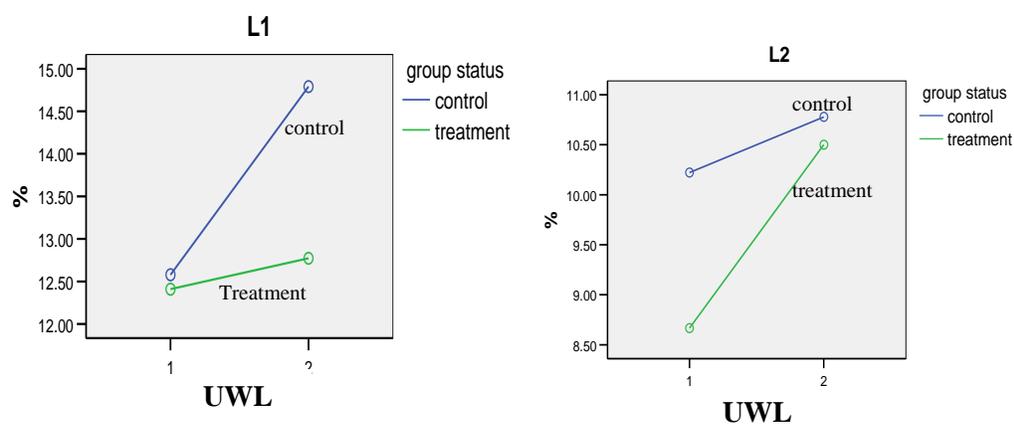


Figure 5 13: Interaction Plot between L1 and L2 learners UWL (modified group)

From figure 5.13, it can be said that the L1 subjects in the modified group who were proficient at the 80% 2000 word level² experienced an increase for both treatment and control groups. While both L1 groups had started off at nearly the same levels, their

² Some L1 speakers of nonstandard English varieties did not reach the 80% level on the 2000 word list.

UWL development had been affected by the treatment and control conditions. Incidentally, the L1 subjects initial pretest UWL mean scores (>12) was on a different level compared to the initial proficient L2 subjects' scores (8.5 and 10). The L2 subjects' final posttest UWL scores were much lower (+ 11) than the initial level of the L1 subjects (+12) scores. In terms of instructional effect, the L2 subjects in the modified group had begun from two different levels (control= +10) and (treatment = +8.5), but the treatment group managed to score almost as high as the L2 subjects in the control conditions (+10.5) where the control group had begun with a huge advantage at the pretest level. Thus, it was possible that the (fonf and fonfs) treatment did have an effect in terms of accelerating vocabulary development. This however, cannot be said for the control group because they had already begun with a higher initial level but had experienced only a slight increase + 0.5 compared to the L2 subjects in the treatment condition (+2).

In sum, it can be said that explicit fonfs and fonf activities can influence L2 learners vocabulary learning but to see a positive increase it is necessary for learners to have an satisfactory level of vocabulary knowledge from the 2000 word level and beyond.

Research Question # 4

Research question 4 was concerned with L2 learners' in-depth vocabulary knowledge. The purpose of the question was to determine whether a measure of L2 collocational ability (as measured through the DVK test) helped describe learners' in-

depth vocabulary knowledge. It also addressed the issue of how well L2 learners needed to know the various meanings of a word before they could use it in their own word collocations. As discussed in chapters 2 and 3, testing researchers' believe that by examining the various dimensions of vocabulary knowledge, it is possible to identify a pattern for L2 word knowledge and word use, and the DVK measure (Qian & Schedl, 2004) was designed to assess lexical knowledge and word association skills. The DVK measure incorporated the various views of Wesche and Paribakht (1996), Chapelle (1998), Henriksen (1999), Read (2000) and Qian and Schedl (2004) . The test instrument was as an efficient predictor of the overall state of L1 and L2 learners' lexicon and was able to capture both size and depth of knowledge in the study. The scores helped explain why some kinds of word knowledge were more revealing than others and how greater depth of vocabulary knowledge affected learners' word use. Such information enabled researchers to determine whether it was worth focusing on depth of knowledge for all levels of L2 students. In addition, questions that addressed specific aspects of vocabulary ability such as meaning, polysemy and collocation through word association skills helped inform whether a small set of predictors of lexical knowledge can be used to predict almost the same amount of variation that would occur when learners were subjected to wide scale word use such as free writings. Within instructional contexts, where the target for L2 learners' linguistic skills were that of L1 speakers, it was necessary to use test instruments that effectively measured both L1 and L2 learners' vocabulary knowledge. Such an instrument had to provide stable data for both L1 and

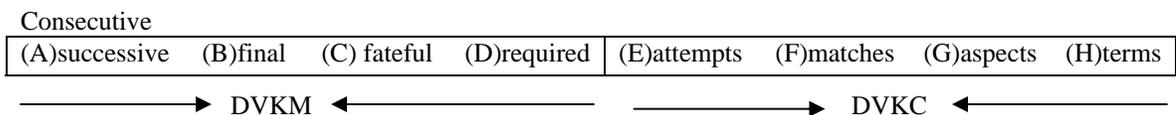
L2 learners' performance, and here the DVK was seen as a suitable measure. To address the above concerns, question 4 was formulated.

Question 4 was based on the null hypothesis that there would be no difference between the degree of correlation between scores on the meaning section and the collocation section of the DVK test for the L1 group versus the L2 group.

4. Do scores on a test of the word definition section of the DVK test correlate with scores on a test of the word collocation section of the DVK test for L1 and L2 students?

To answer this question, it was necessary to identify the association between the variables. It was assumed that subjects with a larger vocabulary size as determined by the word definition section of the DVK would score well for the collocation section. With this in mind, both the variables (meaning and collocation) were measured using a 40 item DVK measure (Appendix C). Each item contained one stimulus word, which was an adjective and two boxes containing four words each as indicated in (1) below. The left box contained the meaning component and was called the "DVK meaning" (DVKM) and the right box contained the collocation component and was name "DVK collocation"(DVKC).

(1)



The DVK meaning subtest contained a total of 79 correct answers, and the DVK collocation subtest contained 81 correct answers. The participants were given 35 minutes

to complete the test as suggested by the authors (Qian & Schedl, 2004). The test was administered by the respective instructors, except for group C12-, where the researcher was invited to explain the procedure and talk about the research and help administer the test. All other instructors felt that they should administer the test as part of their course because it seemed more appropriate to treat the test as an extension of the regular lesson rather than have the researcher interrupt the continuity. So, only Group C12- realized that the final test was intended to serve as data for the study. Most students took 30 – 35 minutes to complete the test, except for one L2 student who did not feel comfortable with the test format and appeared rather anxious. She was unable to complete the test and stated that it was difficult to concentrate under pressure of time.

Results

To refute the null hypothesis, it was necessary for the researcher to demonstrate that a) there was a difference between the degree of correlation between the meaning section and the collocation section of the DVK for L1 group and L2 group. Table 5.19 presents the differences in average scores for the word meaning section and word collocation section of the DVK test for L1 and L2 subjects.

Table 5.19: DVK Scores for L1 and L2 Subjects

	Status	N	Mean	SD	%	SEM
Meaning	L1	63	65.05	10.53	82.33	1.33
	L2	57	45.75	14.04	72.15	1.86
Collocations	L1	63	65.4	9.98	77.78	1.26
	L2	57	40.54	15.59	49.39	2.07

Based on the data in table 5.19, the L1 subjects scored 65.05 (82.33 %) points for the meaning section and 65.4 (77.78 %) for the collocation section. The L2 subjects scored 45.75 (72.15 %) points for the meaning section and 40.54 (49.39 %) for the collocation section. Based on the scores, it can be said that the L1 subjects knew a large number of word meanings as well as word collocations (65.05: 65.4). The L2 subjects, however, knew more word meanings than word collocations (45.75: 40.54). It was necessary to determine whether these differences were significant. An independent T test was conducted to determine the level of significance.

Results of the Independent T Test

The results from table 5.20 indicated that the differences between language groups were statistically significant $F(1,119)=73.359, p<0.001$ for the meaning section and $F(1,119)=110.127, p<0.001$ for the collocation section. It was therefore possible to refute null hypothesis #1.

Table 5 20: Independent T Test Results for Differences Between Language Groups (L1 & L2)

		Sum of Squares	df	Mean Square	F	Sig.
Meaning	Between Groups	11138.948	1	11138.948	73.359	.000
	Within Groups	17917.419	118	151.843		
	Total	29056.367	119			
Collocation	Between Groups	18483.772	1	18483.772	110.127	.000
	Within Groups	19805.220	118	167.841		
	Total	38288.992	119			

**significant levels are italicized in bold*

The scores for at least one language group were different from the other for both meaning and collocation, and this was statistically significant for both between and within group measures.

Correlation Effect

A Pearson Moment correlation analysis was done to determine the relationship between meaning and collocation for both L1 and L2 subjects scores, and the results are as presented in table 5.21. The results indicate a high correlation between the two sections of the test for L1 subjects ($r = .801$) and a low correlation effect for L2 subjects ($r = .392$), and the findings were highly significant. There was a positive and linear relationship between word meanings and word collocation for these subjects.

Table 5 21: Correlations for L1 and L2 Subjects

Language			meaning	polysemy
L1	Meaning	Pearson Correlation	1	.801(**)
		Sig. (2-tailed)		.000
		N	63	63
	Collocation	Pearson Correlation	.801(**)	1
		Sig. (2-tailed)	.000	
		N	63	63
L2	Meaning	Pearson Correlation	1	.392(**)
		Sig. (2-tailed)		.003
		N	57	57
	Collocation	Pearson Correlation	.392(**)	1
		Sig. (2-tailed)	.003	
		N	57	57

N=110

** Correlation is significant at the 0.01 level (2-tailed).

The L2 subjects' scores demonstrated a significant correlation effect as well, but the relationship was not as strong as that of the L1 subjects suggesting that there were subjects whose performances could not be explained in a linear manner.

Scatter Plot

The scatter plot in figure 5.14 provides a clearer representation of the closeness between word meaning and word collocation for both L1 and L2 subjects. The scatter plot for the L1 subjects indicate that most of the speakers knew a large number of word meanings as well as word collocation, and the scores were confined to the first quadrant, indicating high scores on both sections of the test. The scores for the L2 subjects did not show such a definite pattern, and distribution was rather sporadic in certain quadrants. The subjects at the first quadrant appeared to know slightly more word collocations than meanings, but there was no definite pattern for the other subjects.

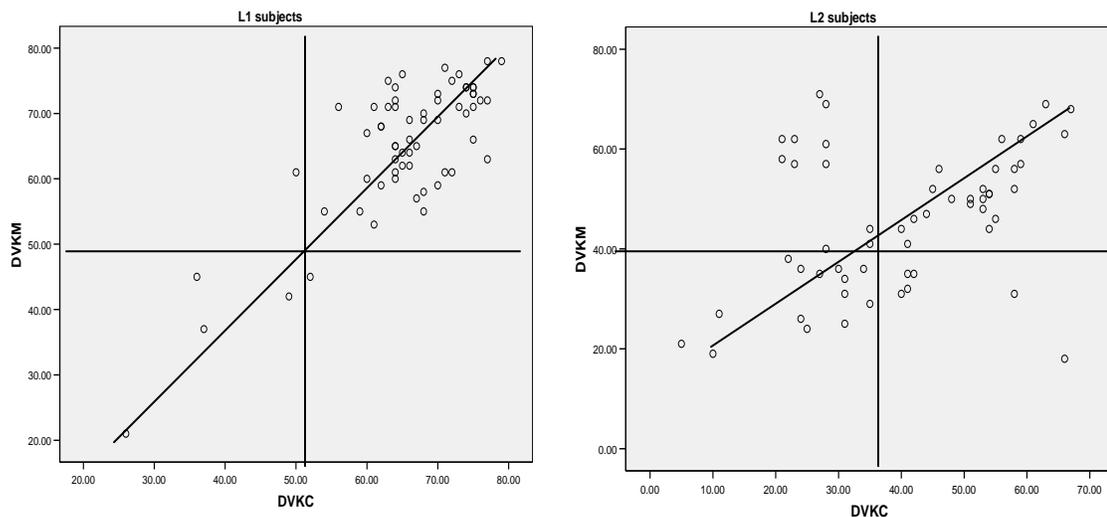


Figure 5 14: Scatter Plots for Meaning (DVKM) and Collocation (DVKC) (L1 (a) and L2 (b) Subjects)

In sum, there was a close correlation between word meaning and collocation for both L1 and L2 subjects. L1 learners who knew the word meanings knew the word collocations equally well. However, not all L2 subjects who knew a lot of word

meanings did well in the collocation section. In fact, L2 subjects' performance could not be restricted to any specific quadrant in the scatter plot except for the more proficient L2 subjects in the first quadrant who experienced a stronger and linear relationship between word meaning and word collocation.

Research Question # 5

Research question 5 addressed the effect of Form Focused Instruction on L1 and L2 subjects' ability to consolidate the various meanings and word collocations. The question was based on claims that form focused instruction (as provided in both control and treatment groups) a) for acquiring lexical competence (Laufer, 2006), and b) word collocation knowledge (one of the most difficult aspects of the vocabulary knowledge) is best expanded through explicit form focused instructional activity. In addition, lexical studies have increasingly shown that L2 learners find it easier to make semantic connections but face difficulties when making semantic associations (Segalowitz, 2007). Also, advanced L2 learners lacking recourse to a large vocabulary inventory are said to resort to common, familiar words to get their meanings across, thereby affecting their discourse negatively (Liu and Shaw, 2001, Hyland, 2004). The paucity of compounds in L2 learners' writings (e.g. *copyedit; bankcard; falloff; grownup; tailgate*) have been related to the learners' lack of collocational knowledge and inability to process collocations actively. These limitations have implications for academic writing programs because L2 learners who make use of a smaller range of vocabulary and overuse certain words will end up favoring lexical features which are more typical of spoken

English (Hinkel, 2001), and this could have implications for their academic writing performance. Therefore, piecemeal input, such as getting students to write original sentences, can be said to be half as effective as getting learners to practice multiple encounters with specific forms through fill in the blank activity tasks (Folse, 2006). Then again, Ellis (1997) cautions by stating that the role of explicit instruction through form practices were generally intended to help learners notice the gap between the instructional input and learners' own production. Therefore, the role of systematic practice such as the form activities should be limited to item learning. Therefore, improvement in fluency could not be seen as directly related to increasing in-depth vocabulary knowledge. Question 5 was framed with these issues in mind and to determine whether it was possible to get L2 learners to improve their collocational ability without necessarily having to wait to acquire a large vocabulary size.

5. Is there a difference in the degree of correlation between the word definition section (dvkm) of the revised DVK test and the word collocation section (dvkp) of the revised DVK test for the language groups and the instructional groups?

Question 5 was based on the null hypothesis that the instructional treatment did not have an effect on the scores of the revised meaning section of the DVK test and the revised collocation section of the DVK test. For the analysis, only scores for the 20 target word items, which were the words from the DVK test that were specifically taught during the treatment sessions, were analyzed and correlated. The total points for the

target vocabulary was 40 points for the meaning section and 40 points for the collocation section.

The target words were the following:

<i>accurate</i>	<i>appealing</i>	<i>brief</i>	<i>celebrate</i>	<i>considerable</i>
<i>deceptive</i>	<i>essential</i>	<i>fine</i>	<i>minute</i>	<i>obscure</i>
<i>organic</i>	<i>overall</i>	<i>peak</i>	<i>perpetual</i>	<i>powerful</i>
<i>prolonged</i>	<i>remote</i>	<i>surplus</i>	<i>vivid</i>	<i>wild</i>

Results

Table 5.20 provided the results of the average mean scores for the L1 and L2 learners' performance for the target words based on the treatment types (control versus treatment).

Table 5 22: Scores for Revised Sections of the DVK Test for Language and Instructional Groups

Status	Group status	Meaning ^α (dvkm)	SD	Collocation ^α (dvkc)	SD
L1	Control	35.07	3.98	31.59	4.29
	Treatment	33.7	6.02	30.82	4.99
	Total	34.33	5.19	31.17	4.66
L2	Control	27.29	7.19	20.00	7.02
	Treatment	24.76	7.5	20.15	7.32
	Total	26.14	7.38	20.07	7.10

^α (Out of a total of 40 points)

The results indicated that the L1 subjects in the control group had obtained 35.7 points for word meaning and 31.59 for the word collocation section. These scores were higher than the scores of the L1 subjects in the treatment group. The L2 subjects in the control group had obtained 27.29 points in the meaning section and 20 points at the collocation section while the L2 learners in the treatment group had obtained 24.76 points in the

meaning section and 20.15 points in the treatment section. The L2 subjects in the treatment group knew less word meanings than the L2 subjects in the control group, but they seemed to have a slight edge over the L2 subjects in terms of word collocation.

Correlation Effect (Treatment Group)

To refute the null hypothesis, it was necessary to indicate that the correlation effect did show a difference between the L1 and L2 subjects' scores on the revised word meaning and word collocation section according to treatment groups. To determine the correlation effect, a Pearson Product Moment correlation analysis was conducted for the scores obtained in the revised word meaning section (dvkm) and collocation section (dvkc) and the results for the treatment group are as presented in table 5.23. From the findings, it was evident that the correlation effect for collocation and word meaning for the L1 subjects in the treatment group was high ($r= 0.792$) and the results were statistically significant. There was a clear and linear relationship between word meaning and word collocation ability for L1 subjects. Similarly, the L2 subjects had obtained a high and significant correlation effect for word meaning and word collocation for the target words ($r=0.705$). As the results were highly significant, the results could not be related to chance. Instruction did have an effect on the L2 subjects' performance. It was therefore possible to reject the null hypothesis for the L1 and L2 subjects in the treatment groups.

Table 5 23: Correlation Analysis for the Revised Sections of the DVK Test For Treatment Group (L1 and L2 subjects)

NS status		Overall scores		
			Collocation	Meaning
L1	Collocation	Pearson Correlation	1	.792(**)
		Sig. (2-tailed)		.000
		N	34	34
	Meaning	Pearson Correlation	.792(**)	1
		Sig. (2-tailed)	.000	
		N	34	34
L2	Collocation	Pearson Correlation	1	.705(**)
		Sig. (2-tailed)		.000
		N	26	26
	Meaning	Pearson Correlation	.705(**)	1
		Sig. (2-tailed)	.000	
		N	26	26

** Correlation is significant at the 0.01 level (2-tailed). * Significant levels are italicized in bold. $P < 0.001$

Correlation Effect (Control Group)

A Pearson Product Moment correlation analysis was conducted for scores in the revised word meaning sections (dvkm) and word collocation section (dvkc) sections, and the results for the control group are as presented in table 5.24. From the findings it was evident that the correlation effect for collocation and word meaning for the L1 subjects in the control group remained high ($r = 0.727$). This result was close to the r value of the L1 subjects in the treatment group ($r = .792$). There was a strong linear relationship between word meaning and word collocation ability for the L1 subjects in both treatment and control conditions. However, the L2 subjects' correlation effect was relatively low ($r = 0.360$) though the results were significant, indicating that the effect was not based on chance. It was therefore possible to reject the null hypothesis.

Table 5 24: Correlation Between Overall Words and Target Words (Control)

NS status	Overall scores			
		Collocation	Meaning	
L1	Collocation	Pearson Correlation	1	.727(**)
		Sig. (2-tailed)		.000
		N	63	63
	Meaning	Pearson Correlation	.727(**)	1
		Sig. (2-tailed)	.000	
		N	63	63
L2	Collocation	Pearson Correlation	1	.360(**)
		Sig. (2-tailed)		.006
		N	57	57
	Meaning	Pearson Correlation	.360(**)	1
		Sig. (2-tailed)	.006	
		N	57	57

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

In sum, it can be said that the explicit treatment activities had contributed to an increase in the L2 learners' performance in terms of collocational ability. This increase brought the degree of correlation in the two revised test for the L2 treatment subjects to a level that was close to that of the L1 subjects.

Scatter Plot Effect for Control and Treatment Conditions (L1 and L2 groups)

Figures 5.15 provides a visual representation of the various effects for meaning and collocation. The scatter plot for L1 subjects indicate that following explicit (treatment) focus on forms (fonfs) and focus on form (fonf) instruction, the scores for the L1 subjects converged in the first quadrant and were closer to the straight line indicating the probability of causal relationship between dvkm (definition) and dvkc (collocation). The scatter plot also show that regardless of their knowledge of word meaning, L1 learners have a greater affinity for collocational knowledge.

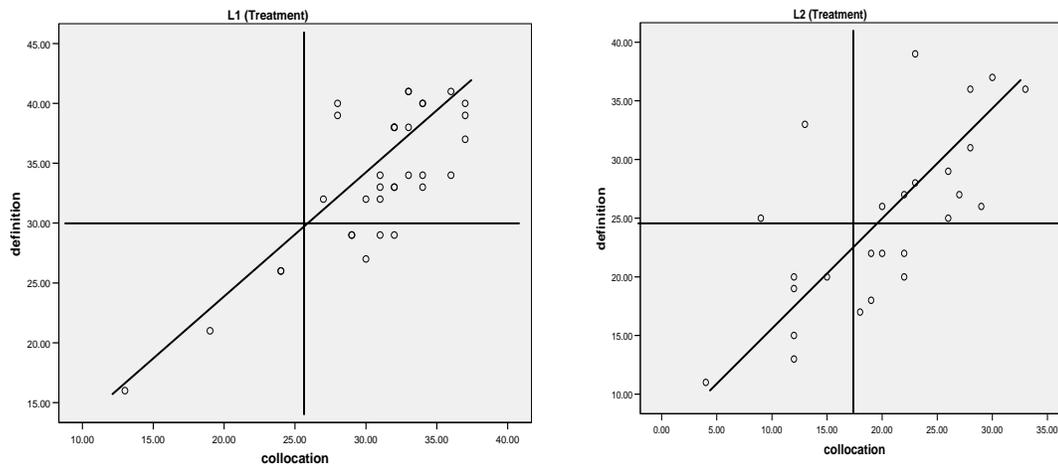


Figure 5.15 : Scatter Plot for Definition and Collocation of L1 and L2 Subjects (Treatment)

As figure 5.15 shows, the L2 subjects' scores were heavily distributed below the line of best fit suggesting that these L2 subjects generally demonstrate more word collocation knowledge than word meaning knowledge. This relationship was different from the relationship experienced by the L2 subjects in the control group, which is indicated in figure 5.16.

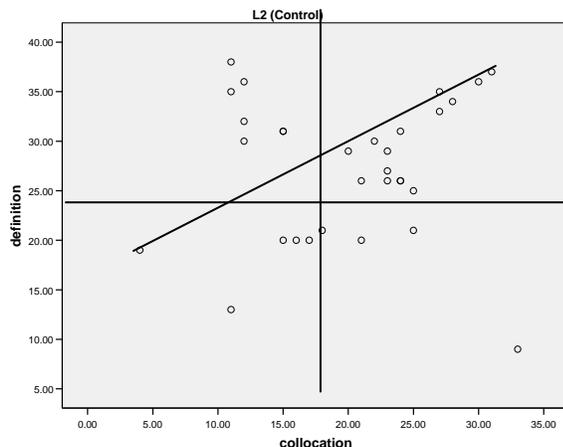


Figure 5.16: Scatter Plot for Revised Word Definition and Word Collocation of L2 Subjects (Control)

Figure 5.16 indicates that most of the scores were scattered along the first and second quadrants but not close to the line of best fit. The subjects knew more meanings than word collocations indicating that meaningful input as experienced by the L2 learners from the control group helped increase their awareness of word meanings and size, but word size did not have a direct effect on their word collocation ability.

In sum, it can be said that the degree of correlation for the L2 subjects in the treatment condition ($r=.705$) was closer to the L1 ($r=.792$) subjects in the treatment condition as well as the L1 subjects in the control conditions ($r=.727$). This was different from the relationship of L2 subjects in the control condition ($r=.360$). These effects were not related to chance and the findings were statistically significant. In other words, explicit vocabulary instruction through fonf and fonfs activities had contributed to L2 subjects' collocational ability irrespective of vocabulary size.

CHAPTER SIX

CONCLUSIONS AND IMPLICATIONS

Summary

This study began with a deep rooted interest in vocabulary, second language acquisition studies and vocabulary testing research. The general aim of the study was to use existing vocabulary measures to investigate increasing claims about L2 learners' ability to increase their word knowledge from within a meaningful environment and a modified environment. Vocabulary knowledge was assessed in line with the multidimensional model of vocabulary knowledge. The research findings were intended to serve as a basis for providing additional credibility to current claims in L2 vocabulary testing research that certain vocabulary knowledge has greater value for L2 learners learning in an academic environment and therefore needs to be directly taught to increase their high frequency vocabulary as well as academic vocabulary. The study used the Productive Levels Vocabulary Test, to assess gains in L2 learners' academic word size following two types of instructional groups. The learners' gains were also assessed according to language groups and it was possible to demonstrate that it was no longer the instructional approach that was an issue but rather the initial proficiency level of L2 learners. In addition, it was also possible to suggest that L2 learners were able to increase the vocabulary size much more rapidly once they had a satisfactory level of threshold vocabulary knowledge. The Lexical Frequency Profile provided evidence for L1 and L2 learners' frequent and infrequent word use in three separate essays. While the L2 learners' grades were not directly related to the levels of academic word, it was possible

to suggest through subsequent analysis that L2 learners who were subjected to explicit instruction could be taught to increase their academic word use, and an increase in academic words in the essays did result in higher grades.

The Depth of Vocabulary Knowledge test was able to provide evidence for the strong and linear relationship between word meaning and word collocation for the L1 learners' receptive and productive vocabulary knowledge. Nevertheless it was not possible to make similar generalizations for L2 learners' receptive (word meaning) and productive (word collocation) vocabulary knowledge. In terms of instructional effectiveness in relation to receptive (word meaning) and productive (word collocation) vocabulary, it was possible to suggest that through explicit focus on forms and focus on form activities L2 learners did manage to increase their productive vocabulary knowledge in terms of word collocation knowledge. Thus, it was possible to state that: a) L2 learners do begin with different kinds of vocabulary knowledge; b) L2 learners can be taught to increase their academic vocabulary through explicit instruction; c) L2 learners' vocabulary development is affected by threshold level; and d) while explicit instruction did contribute to an increase in word use, it was more effective for increasing L2 learners' word collocation skills and not their knowledge of word meanings as demonstrated through the scores in the revised Depth of Vocabulary Knowledge test. Thus, by cutting through a cross section of L2 learners' vocabulary knowledge continuum, the study was able to provide some additional credibility to support current claims in testing research (Laufer, 2005, 2006) that state that : a) the L2 communicative language learning environment is insufficient for L2 learners to increase their vocabulary

knowledge, b) instructors may not be able to detect all the gaps in L2 language learners' productive vocabulary, and c) there is the need for some form of systematic integration of explicit vocabulary instruction through focus on forms and focus on form activities. The data from classroom observations, oral interviews and questionnaire were used to provide additional support for the above claims.

In terms of duration, the study was a semester long quasi experimental research that involved 129 L1 and L2 First Year English Composition undergraduates from the University of Arizona. The data for the study were of a mixed nature where vocabulary, instruction and language groups were investigated, and both qualitative and quantitative measures were used to validate the research findings. For quantitative data, scores from a pretest and two posttest measures (Productive Vocabulary Levels Test and Depth of Vocabulary Knowledge) were used to explain gains in vocabulary size, instructional effectiveness and differences between and within language groups. In terms of word use, the subjects' writing assignments were analyzed using the Lexical Frequency Profile. To understand the indirect effect of instructional and learning variables that were beyond the control of the researcher, qualitative data were collected from a series of classroom observations and follow up interviews with instructors and subjects. For a global impression of the actual instructional practices and overall effectiveness of the learning process, a questionnaire survey was used to identify learners' demographics and preferred vocabulary learning strategies. These data alongside the findings from the research questions will be used to argue for a systematic

vocabulary syllabus. The following sections summarize the results of the various research questions.

Findings from the Study

Research Question #1

Does vocabulary teaching lead to a gain in scores on the Productive Vocabulary

Levels tests (PVLТ):

- a) when taught implicitly? (control group)
- b) when taught explicitly? (treatment group)

Null Hypothesis #1: The instruction had no effect on the learning process of the learner.

Null Hypothesis #2: There will be no difference in learners' pretest and posttest scores on the PVLТ.

Null Hypothesis #3: The L1 and L2 learners were not affected by the differences in their proficiency levels as measured by the PVLТ.

Research question 1 examined the effect of implicit (control) and explicit (treatment) vocabulary instructional groups and the various classes involved in the instructional groups.

Effect on Instruction

The first null hypothesis testing the difference between the gains in the control and treatment groups was accepted based on the findings indicated that there were no

significant differences between the control and treatment groups. Nevertheless, based on the descriptive statistics in table 4.6, it was possible to tell that the control (implicit) group had gained by 2.5 points (13.89%) while the treatment group had gained by 0.66 points (3.66%). It was possible to suggest that instruction did have an effect on the learning process and that the effect was greater for the control group compared to the treatment (explicit) group.

Difference between Pretest and Posttest Scores and Proficiency Level

Null hypothesis two was rejected based on statistical evidence that showed that the increases for the posttest scores for these groups were different and the differences were statistically significant. Based on evidence that the posttest scores were higher than the pretest scores for the instructional groups, it was possible to state that learning had taken place during the study. It was also possible to reject null hypothesis three based on statistical evidence that indicated that the subjects in the instructional groups had been affected by proficiency levels. At least one group had experienced an increase that was considerably lower than the other group. Since each instructional group comprised a number of classes, it was worthwhile to determine which classes amongst the six class groups had experienced the greatest gains.

Effect of Instruction on the Various Classes

Overall, three classes from the control group (implicit) and two classes from the treatment (explicit) group had experienced gains in their vocabulary knowledge by the

end of the study. It was possible to state that both implicit (control) and explicit (treatment) had contributed to the increase in academic vocabulary knowledge for the various groups. However, the classes in the control group appeared to have done much better than the classes in the treatment group and this could be related to the pretest vocabulary levels of the individual classes. Incidentally, the classes in the control group had begun with a much higher initial vocabulary knowledge compared to the subjects in the treatment classes. This distinct advantage appears to have accelerated the subjects' UWL gains in the study.

Effectiveness of Explicit Instruction (Treatment)

In terms of effectiveness of instruction, it was possible to state that the gains of the treatment (explicit) classes (A1+ [9.4%] and B2+[2.6%]) were lower than the scores of the control (implicit) classes. There was one class that experienced a loss (Group D12+ [-9.7%]). While instructions did have an effect on the learners, it was possible to state that the fonfs and fonf activities (treatment) did not contribute to a greater increase in academic word size for the subjects in the study.

Effectiveness of Implicit Instruction (Control)

In terms of effectiveness of instruction, the strongest gains were experienced by the classes in the implicit (control) instructional group (B1- [+19.1%], C12- [+16.2%] and A2-[+6.8%]). In addition to these large gains, there was a wide difference between class C12-, which gained by 16.2%, when compared to the treatment

(explicit) class D12+, which decreased by -9.7% . The groups overall gains and the difference between C12- and D12+ made it possible to state that the learners in the implicit instructional group had learned more academic words compared to the explicit instruction group

Discussion

Classes that began with a higher vocabulary level managed to increase their vocabulary knowledge by a larger degree and this was applicable to both instructional groups. Classes that began from a lower level did not increase their vocabulary knowledge by the same degree. This can be related to the cumulative nature of vocabulary knowledge. Learners who know more words will be able to recognize more word meanings accurately. However, learners who know fewer words often struggle to recognize new word meanings, and this can affect their comprehension process. While the researcher agrees that “instruction makes a difference in L2 acquisition, when compared with naturalistic acquisition” (Long cited in Norris and Ortega, 2000, p. 158), it is equally important to consider the learner’s initial vocabulary level, which seems to exert a greater influence on the acquisition process.

There were several other factors that could have influenced the learning process that cannot be ignored. The classroom settings were very different. The tech savvy classes managed to cover a broader curriculum compared to the other classes while most of the remaining classes did not use any technology to provide meaningful input. Many of the classes were largely instructor centered. The subjects in the technology savvy

classes were able to process an unlimited amount of language and words, and this could have had an implicit effect on their vocabulary acquisition process. The small treatment class (combination classes) experienced a loss, and this could have been due to the class time and the limited facilities. Classes (B1-, C12-), where instructors played a more active role in addressing vocabulary did much better than classes where instructors downplayed the need to disseminate word knowledge. In terms of instructor attitude, most instructors were convinced that vocabulary was best caught rather than taught and were not too concerned with ensuring that the subjects really understood unfamiliar words. Thus, at this point it would be difficult to state that it was the instruction alone that contributed to the greater gain since a number of factors seem to have contributed to the vocabulary learning process as well. Then again, a measurement of word size alone may not be sufficient to provide an understanding of the vocabulary learning process nor the instructional process. It may be worth examining word use in order to obtain further understanding of the vocabulary acquisition process in addition to instructional effectiveness.

Research Question #2

Do average grades on the students' essays (E1, E2,E3) correlate with scores on the AWL section of the Lexical Frequency Profile (LFP) for L1 and L2 subjects?

Null Hypothesis # 1: The L1 subjects' average grades will not be affected by their AWL scores.

Null Hypothesis # 2: The L2 subjects' average grades will not be affected by their AWL scores.

Null Hypothesis # 3: There will be no relation between the AWL word scores for the individual essays.

Overall Grades and AWL scores

From the descriptive statistics, it was evident that both L1 and L2 subjects obtained approximately 85.5 points as their overall grade (the total of the grades for the three individual essays E1, E2, E3). This placed their essays in the B category. There was a difference in terms of AWL word use for the individual essays. Approximately 5% of the overall words in the L1 subjects' essays were analyzed as academic words. As for the L2 subjects the percentages of academic words varied from 4.89 % to 5.2%. While the L2 subjects clearly used fewer academic words, the overall grades did not appear to have taken that into account.

Based on the Pearson Product Moment correlation, it was possible to identify a low relationship between academic word use and grades for L1 participants at $r=0.3$. About 10 percent of the variance in the scores was affected by the learners' academic vocabulary. It was possible to refute the first null hypothesis. The academic words in E3 did have an effect on the L1 grading criteria. Null hypothesis two was accepted based on statistical evidence that indicated that there was no linear relationship between L2 learners' academic word use and overall grades. The academic words in the various essays did not have any effect on the L2 grading criteria. The above conclusions were

similar to the instructors' earlier explanations recounting that they used different grading criteria for L1 and L2 learners' essays. Evidently, the instructors were more attentive to the L1 subjects' word choice, and this had an effect on the way the essays were graded. Since the L2 subjects were merely encouraged to vary their word use, but the academic words were no longer a factor in the grading process. Null hypothesis three was also rejected based on statistical evidence that indicated a relationship between the essays (E1, E2, E3) for both L1 and L2 subjects and the results were highly significant. It was apparent that at least one of the language groups was making a concerted effort to increase their academic word use, and it became necessary to identify: a) if the treatment (explicit instruction) had contributed to a greater increase in L2 learners academic word use and b) if an increase in academic word use had a positive effect on the overall lexical density of the academic essays, thus indirectly contributing to overall scores.

The Effect of Instruction on Academic Word Use

Both L1 and L2 subjects' essays (E1,E2 and E3) were analyzed using multivariate analysis. From the repeated mean measures, it was possible to state that the AWL word use for both language groups was different. The findings from the three way interaction effect for academic words, language groups and instruction groups indicated that the learners' academic word use was affected by a) differences between instructional groups as well as the language groups, and c) differences within instructional groups and language groups.

An in-depth analysis of the individual classes according to instructional groups indicated that the treatment (explicit) group had increased its academic word use for the second essay while the control group has reduced its academic word use for the second essay. When analyzed according to language groups, both L1 and L2 subjects in the treatment groups were found to have increased their academic word use, while the L1 and L2 subjects in the control group appeared to have decreased their academic word use for the second essay. When analyzed in terms of individual class groups, it was found that the L2 subjects in the treatment classes had increased their word use at a much more rapid rate than the L1 group in the treatment and the other language groups in the control group. However, there was an exception. While most of the class groups in the control group reduced the amount of academic word use for the second essay, class B1- reduced its academic word use for the second essay. This was the class where the instructor was convinced that both L1 and L2 subjects (control and treatment) needed to learn academic vocabulary and often addressed vocabulary forms and provided elaborate explanations beyond the requirements. When analyzed according to academic word ability, the L1 and L2 subjects taught by both instructors D and B were found to have increased their academic vocabulary by about 5.4% and above. Thus, form focused elaboration in the form of fonf and fonfs activities seems to have a greater effect on academic word use. The fact that the L2 subjects in class D12+ used the highest percentage of academic vocabulary for the L2 group (6.4%) and this number was close to the L1 subjects in D12+ which used 6.4% as well is equally important. Class D12+ was the class where the L2 subjects did not participate in the classroom discourse, and the L1 subjects monopolized

the conversations. Yet, it is likely that the L2 speakers benefited from listening to the interaction of their peers. Then again, implicit learning may have taken place. At this stage, it would appear that instruction, instructors and interaction have great influence over L2 subjects' word knowledge.

Discussion

In terms of learner proficiency, there was obviously less academic word use for the first essay. This could be seen as the learners' initial academic word level. It was too soon for the treatment to have taken effect (two weeks). However, the L2 classes in the treatment group increased their AWL scores for the second essay. In terms of the acquisition process, this development can be related to Van Patten's (1996) "Lexical Preference Principle" which states that learners prefer processing lexical items to grammatical items for the same semantic information. It is more likely that the treatment group noticed the lexical items, and with additional exposure to the lexical items through the sentence completion and association activities (fonfs and fonf activities), and were pushed to become more aware of their syntactic relationships as well. In other words, the word knowledge moved from the discovery stage to the consolidation stage. As the third essay happened to be a rewrite of one of the earlier essays, it is likely that the subjects attended to making changes to other aspects of writing such as structure and grammar. Thus, it is the second essay that explains the effect of instruction. L2 learners who are pushed to produce output (as in the fonfs and fonf activities) appear to

become more aware of the words and the ensuing explanations and elaborations seem to generate deeper lexical insights that help subjects with their writings.

Research Question # 3

Is the gain in vocabulary scores on the PVLТ for the treatment (explicit) group (fonfs and fonf) greater than the gain in scores for the control (implicit) group (comprehensible input) for both L1 and L2 students?

Null Hypothesis # 1: There is no difference between the performance of the L1 and L2 subjects.

Null Hypothesis # 2: The instructional activities have no effect on the L1 and L2 subjects' test scores.

Null Hypothesis # 3: The gains on the PVLТ test are not affected by L1 and L2 subjects' proficiency levels.

Question 3 examined whether there was a difference between the control (implicit form focused instructional activities) and treatment (explicit form focused instructional practices) in terms of learning academic vocabulary for both L1 and L2 learners based on the scores of the PVLТ. The treatment used fonfs and fonf activities while the control used free writing activities. The L1 subjects were a homogeneous group with a higher level of vocabulary knowledge at both the 2000 word level (86%) and academic word level (62 – 66%) while the L2 subjects were a heterogeneous group with a lower level of vocabulary knowledge for both the 2000 word level (67- 65%) and academic word level (38- 26%) at the pretest level.

Effect of Instruction for Language Groups

The findings from the repeated mean measures for both language groups and instructional groups indicated there was a difference between the performance of both L1 and L2 subjects. It was possible to reject null hypothesis # 1 based on evidence from the repeated mean measures. The L1 subjects experienced a higher increase in the academic section of the PVLТ compared to the L2 subjects. Similarly, it was possible to reject null hypothesis #2 based on descriptive statistics that showed that the control groups (containing both L1 and L2 subjects) showed a greater gain on the posttest than the treatment group. The repeated means measure showed that this difference was statistically significant. Both language groups had a higher score at the posttest level and based on statistical evidence, it was possible to conclude that a) the differences were not based on chance, and b) instruction had contributed to improved scores for both L1 and L2 learners.

The L1 learners in the treatment classes (A1+ and D12+) experienced gains at different rates, while the L2 learners in the treatment group (B2+ and D12+) showed modest gains. In fact, based on the interaction plot, it appeared that the L2 subjects in the treatment group had not gained. By averaging the means of all subjects, the performance of the proficient subjects was obscured. The L2 treatment group was highly heterogeneous. This could also be related to the subjects' initial proficiency level and threshold vocabulary. Initial proficiency is related to the subjects' pretest UWL scores, and threshold vocabulary is concerned with the minimum level of vocabulary that would

allow subjects to adequately comprehend academic discourse. In this study the 2000 word level was assumed to be the threshold vocabulary.

Threshold Vocabulary

To determine the actual performance of subjects who already had the threshold vocabulary at the 2000 word level, a repeated measure was done on subjects who had scored beyond 80% at the 2000 word level. For the modified group, it was evident that the L1 subjects' (treatment and control) pretest UWL scores began from approximately 12.5 (69.44) while the L2 subjects' (treatment) pretest UWL scores began from approximately 8.5 (47.2%) and the posttest scores ended at + 10.5 (58.33). There had been an increase for the proficient L2 subjects in the treatment group and this increase had not been detected in the initial analysis. Then again, the proficient L2 subjects' posttest scores were below the initial academic vocabulary level of most L1 subjects. It appeared that the L1 and L2 subjects in the study were clearly working from two different vocabulary ranges or threshold levels. In addition, the L2 subjects in the treatment group (despite having begun from the lowest UWL level) had increased their posttest scores for the PVLТ measures by about twice the level of the L2 learners in the control group. The meaningful environment of the control subjects evidently had not contributed to such a rapid increase. Therefore, it is possible to say with conviction that explicit instruction does have a positive effect on the AWL development of limited proficiency L2 subjects provided they have a satisfactory level of threshold vocabulary knowledge at the 2000 word level. Therefore, null hypothesis #3 can be rejected.

Research Question # 4

Do scores on a test of the word definition section of the DVK test correlate with scores on a test of word collocation section of the DVK test for L1 and L2 students?

Null Hypothesis: There is no difference between the degree of correlation between scores on the meaning section and the collocation section of the DVK test for the L1 group versus the L2 group.

The specific aim of the question was to demonstrate that L2 learners possess different forms of word knowledge that prevent them from acquiring collocational ability. The theoretical orientation for this question was the word association studies (Read, 1998, 2000) that claimed that an increase in word knowledge will enable L2 learners to make word associations that resemble L1 users' word use. The test instrument was the DVK measure. To answer the question, the researcher had to show that both L1 and L2 participants' scores for word meaning and word collocation were not the same. This would help explain the differences between proficient and less proficient L2 learners' word collocation ability.

Difference between L1 and L2 Subjects' Word Meaning and Word Collocation Scores

The descriptive statistics indicated that L1 participants scored 65.05 points out of 79 for the word meaning section and 65.4 points for word collocation section out of an approximate 81 points. The L2 participants obtained 45.75 points for the word meaning

section and 40.54 points for the word collocation section. L1 subjects knew almost an equal amount of word meanings and word collocations. L2 subjects knew more word meanings than word collocations. The L2 subjects' performance was not surprising since word collocation was generally assumed to be among the more difficult aspect of word learning.

Relationship Between Word Meaning and Word Collocation

The independent T Test indicated that the scores for both the meaning section and the collocation section of the DVK measure were statistically significant. Similarly, the Pearson Product moment correlation analysis for both L1 and L2 subjects showed that the effects were highly significant at ($r=.801$) for L1 participants and ($r=.392$) for L2 participants. There was clearly a stronger relationship between word meanings and word collocation for L1 subjects and a weaker relationship between word meanings and word collocation for L2 subjects. The distributions in the scatter plots indicated that most L1 subjects knew as many word meanings (DVKM) as they did word collocations (DVKC). The L2 subjects' scores however, were not concentrated around the line of best fit and were sporadic in certain quadrants. This indicated that L2 learners who knew a lot of word meanings did not necessary know a lot of word collocations for the same words. Likewise, L2 subjects who knew a lot of word collocations did not necessarily possess a large word size (word meaning). There was a small group of the L2 subjects whose scores converged around the first quadrant, and this indicated that they knew a lot of word meanings and word collocations.

Discussion

While most L1 learners possess a close and linear relationship between word meanings and word collocation ability, L2 learners generally do not display any specific pattern for meaning and collocation ability even when they know a lot of word meanings. This study seems to reinforce the literature. This finding can be related to Meara and Wolter's (2004) arguments that state that L2 speakers might seem to produce a wider range of associations than L1 speakers do, but it is difficult to disentangle the effects of L1 interference in L2 word associations (p.90). Based on the analysis, it is possible to state that L2 subjects who knew more meanings in the DVK section would have done well on the collocation section, but judging from the fairly uneven distribution, it was difficult to describe the L2 subjects' word meaning ability in relation to their word collocation ability. It is also possible that both L1 and L2 subjects were working from entirely different thresholds, making it difficult to make comparisons as evidenced through question 3. Association studies have often shown that small lexicons tend to display a disparity in organization and will not show any clear pattern, and the larger lexicons tend to be better organized. Then again, it can be as Meara and Wolter (2004) state, lexical organization may be an insignificant factor as long as the lexicons in question were below a critical size threshold, and that organization becomes increasingly important only once the critical size is reached. Nevertheless, the results need to be taken together with Read's (2000) suggestion that L2 subjects with a large vocabulary often do better at text comprehension, while those with a better collocation do better at writing, but the findings remain speculative. Overall, it can only be stated

that most L2 learners generally do not know a lot of words, and relationship between their knowledge of word meanings and word collocation was not necessarily close.

Research Question # 5.

Is there a difference in the degree of correlation between the word definition section (dvkm) of the revised DVK test and the word collocation section (dvkc) of the revised DVK test for L1 versus L2 students?

Null Hypothesis: The instructional treatment will have no effect on increasing the scores on:

- a) the revised meaning section of the DVK test, and
- b) the revised collocation section of the DVK test.

To answer the question, the researcher had to show that the L2 learners in the treatment group were able to obtain high scores in both the word meaning section of the revised DVK measure (dvkm) and the collocation section of the revised DVK measure (dvkc).

Scores on Word Meaning and Word Collocation on the Revised DVK

The descriptive statistics showed that the L2 learners in the control group recorded an average of 27.29 points for word meaning (dvkm) and 20 points for word collocation (dvkc) out of a total of 40 points each. The participants in the L2 learners treatment group scored an average of 24.77 points for word meaning and 20.15 points for

word collocation. The L2 subjects' scores in both instruction groups for the meaning section were much lower than the L1 subjects scores in the two instructional groups. All L1 subjects' scores were above 30 points for both the revised meaning sections (dvkm) and revised collocation sections (dvkc). Within the L2 subjects themselves, the treatment group had a slight edge over the L2 subjects from the control group for the revised word collocation section of the test by + 0.5 points.

Degree of Correlation for the Revised Sections

In terms of degree of correlation, the Pearson Product moment correlation analysis showed that for the treatment group, the L1 participants' scores for the revised word meaning section (dvkm), and word collocation section (dvkc) were highly significant ($r=0.792$), and the L2 participants' scores were highly significant ($r=0.705$) as well. This finding made it possible to refute the null hypothesis. These degrees of correlation were also different from the overall DVK measure (Research question # 4) where the correlation effect for L1 subjects was higher ($r=0.801$) and the L2 subjects' correlation effect was low ($r=0.392$) but significant. L2 speakers in both the treatment and control groups got lower average scores on the collocation section of the revised DVK test than on the meaning section. This was expected because studies have shown that a large vocabulary size is necessary to collocate words. However, the difference between scores on the two sections of the test for the treatment groups was less than the difference between the scores on the two sections of the test for the control group. This fact implies that the instructional treatment strengthened the L2 treatment subjects'

knowledge of word collocations. While there was a linear and positive relationship between meaning and collocation in the revised DVK for both L1 and L2 participants in the treatment groups, it was possible to suggest that the L1 subjects in the study did not seem to have benefited from explicit vocabulary instruction like the L2 treatment group. In addition, the L2 subjects in the control (implicit) condition did not acquire the collocation skills necessary for associating words through the meaningful environment and L2 learners seem to require explicit instruction in addition to the meaningful environment to increase their vocabulary knowledge. Then again, this could be related to the level of threshold vocabulary.

Overall, it is possible to state that explicit instruction (fonfs and fonf) does play a role in enabling L2 subjects to obtain a closer relationship between word meaning and word collocation than the L2 subjects through the revised DVK measure. While the L2 subjects in the treatment group did not necessarily get to increase their vocabulary size, they managed to make associations that were closer to the L1 subjects in both the control and treatment.

Discussion

The target words used in the study were too few to make any broad generalization in terms of L2 lexical organization. It might be as Meara et. al (2003) states, that there are a number of thresholds for the L2 learner, and an unstructured or loosely structured lexicon can only grow to a limit, and cannot grow beyond that limit until the learner has restructured the vocabulary. L2 learners in this study generally did

not know all the meanings of a word and their word knowledge was partial and patchy, despite many of the L2 subjects stating that they had satisfactory word knowledge. Similarly, some of the L2 subjects did state that they felt that they had sufficient vocabulary knowledge to meet the demands of the program. The possible answers to the DVK test were provided by the multiple choice format and this could be seen as “*giving*,” which is not necessarily any better than *guessing*. During the classroom observation, a majority of students did not answer the word collocations sections (part II of the tasks) when answers were not provided. Some even stated that it was too much trouble to think about. Therefore, there is a possibility that fonfs and fonf activities helped activate the L2 subjects’ word collocation skills but only because twenty specific words were repeatedly addressed and this provided practice and reinforcement. Such practices and reinforcement are part of effective traditional teaching. This finding will be useful for learning situations where instructors find themselves making little headway because their learners have simply reached a plateau in terms of specific technical vocabulary and concepts.

Conclusions and Implications

The conclusions which emerged from the discussion of the various research questions have implications for SLA research and vocabulary teaching. Since the research began from a L2 vocabulary testing angle, an obvious starting point would be to reexamine the findings according to the multidimensional perspective of vocabulary knowledge. Then again, while there is great emphasis on the importance of vocabulary in

linguistic and language studies over the last two decades, there seems to be a question mark over the extent to which it is possible to conceive of vocabulary knowledge as being separate from other aspects of language skills. While this study can be similar to previous vocabulary related studies that examined word size, it did also attempt to bring together word use in relation to size, depth, receptive and productive vocabulary, and lexical organization through each question. Therefore, the researcher can claim that the study investigated the multidimensional aspects of word knowledge. The study was also able to show that it is possible to investigate vocabulary as separate from other aspects of language while continuing to contribute to L2 research.

Second Language Instruction

As stated by Danesi (1998), it is close to four decades since the inception of the communicative syllabus, and neither the linguistic community nor the functionalists are closer to getting the L2 learner to speak beyond the textbook literalness of the language. Within language and teaching conferences, teachers continue to remain frustrated over their L2 students' lack of word knowledge and inability to understand concepts (Cameron, 2002). By repeatedly stating that vocabulary is important as in this study, but continuously sidelining vocabulary in the language classroom, instructors are not going to help L2 learners move beyond their existing levels of threshold vocabulary. This will impose restrictions on L2 learners' ability to expand their word knowledge in terms of higher lexical skills. Despite the small increase in collocation skills, the study showed that word learning is a very slow and patchy learning process. Despite eight sessions of a)

explicit vocabulary instruction, b) pushed output, and c) explicit elaboration, the subjects in the treatment were not able to move beyond approximately twenty points for the meaning section of the DVK test. In other words, most L2 students in the study did not learn more than one meaning for each target item. Therefore, the argument that L2 learners will ultimately learn to increase their word knowledge appears to be yet another convenient myth that only serves as an excuse to pass the vocabulary learning burden to the next instructor. Ultimately, it is the L2 learner who loses out. When instructors are overly concerned with drawing distinctions between what is acceptable and unacceptable in the communicative environment, the inclusion of vocabulary can be construed as a zero sum game, where the inclusion of vocabulary must signify the demise of some other skill. Such intention should be seen as simplistic and unproductive. Currently, there is a serious need for the language program to reexamine what is understood by good and effective instructional techniques and accept that there are qualitative differences between the various form focused instructional techniques.

Vocabulary Instruction

From research question #1, it was evident that it was not the approach that mattered, but rather learner proficiency, instructor effectiveness and interaction. Learners who begin with a higher proficiency go on to become better in their vocabulary, while learners who begin with a lower proficiency continue to be passive and rarely interact, and thus risk losing their existing word knowledge. In this matter, it is the instructor's role to activate the receptive vocabulary and help the learner convert the receptive

knowledge into productive vocabulary knowledge. Currently, it does not take rocket science to figure out that what is being addressed as vocabulary in the adult language classroom is merely the tip of the lexical iceberg. Whether the instructor sees the tip as separate from the rest of the language happens to be beside the point. Language instructors, while agreeing that word learning is important to the L2 learner, appear to be reluctant to teach it in the classroom. There are always a number of more important language skills that need attention and there is so little time. It is also possible that instructors simply a) do not have a good understanding of how vocabulary should be addressed in the language classroom, and b) fail to realize that comprehensible input does not always help the L2 learners increase his or her vocabulary.

Then again, this study is not intended as a movement to bring back the grammar translation method into the language classroom, but rather to suggest that approaches that once isolated lexical items and used word lists continue to remain relevant to modern approaches and work for less proficient learners. Presently, the researcher does not deny the role of the communicative environment, but also calls for the inclusion of some order and structure into existing vocabulary learning practices. Then again, teaching vocabulary does not mean “trashing” the instructional approach with the latest innovative vocabulary techniques and exhausting test designs (Singleton, 1999). The focus on forms and focus on form activities are intended to supplement existing approaches with vocabulary activities that give full value to the collocation, grammar and other in-depth dimensions of word learning.

The Writing Classroom

Moving on to the writing classroom, the message from research question # 2 on the grading criteria and learner academic word use is clear. There were gaps within the L2 learners' vocabulary knowledge, which need to be addressed if learners are to perform in the academic writing environment. Most L2 subjects were limited by a threshold vocabulary level of 2000 words, but instruction indirectly helped them move beyond the 2000 word level to become more academically competent. Therefore, it was the content and context of learning that was crucial to word use. The instructors' grades did not correlate with essay grades. However, it is possible that some individual instructors' grades may have correlated with L2 learners' academic word use. This possibility is suggested by the fact that some instructors seemed to be better teachers of vocabulary than others, as mentioned in the qualitative findings. Nevertheless, the overall grades were not related to the L2 subjects' academic word use. This made sense since the L2 learners worked from a smaller vocabulary range compared to the L1 learners, who were using a wider range of vocabulary. However, it is surprising that L2 subjects, despite their limited word choice, obtained grades that were equal to L1 subjects' essays, which incidentally were statistically proven to be affected by the grades.

While the research showed that a number of factors need to be taken into consideration during the grading process, it made little sense when most L1 and L2 learners' academic word use for three academic essays decreased rather than increased by the end of the study. In addition, most students' academic word use did not rise beyond 6.5% for all three essays. It is possible to suggest that the learners in the study

were either unaware of these gaps in their word knowledge continuum, or the assignments were simply not meant to push learners to produce essays that were purely academic in nature (lexical density). It is also possible that the instructors lacked sufficient expertise in terms of academic knowledge and therefore preferred to focus on various language aspects of writing. While these trends may be more of an issue of manpower, and instructional indifference, it must be acknowledged that such superfluous treatment of academic writing skills can have serious implications for L2 learners who need skills to write “pure” academic essays in long the long run.

L1 and L2 Learner Differences

Question 3 addressed a limiting issue that is often addressed as a constituent of socio-cultural identity. It examined the differences between L1 and L2 learners’ vocabulary proficiency, an unpleasant issue in the United States due to possible discriminatory overtones (Cameron, 2002). This debate has not always served the L2 students well because failure to acknowledge the difference between L1 and L2 students’ proficiency has resulted in subsequent underachievement in academic subjects. However, this information is important to many parts of the world where English is used as the medium of instruction. The findings indicate that even the most proficient L2 subjects in the study were working from proficiency levels that were below the initial level of the L1 subjects in the study. While there may be exceptions and the results may have differed in another institution or program, it is still possible to state that the average L2 learner certainly begins with a different level of vocabulary knowledge compared to the

L1 learner and therefore needs help with his or her L2 vocabulary learning process. The incidental finding that not all L1 speakers fell into the category of the modified group (subjects who scored beyond 80 % for the 2000 word level) and subjects who did not speak the standard variety of English did not fit into the category is also noteworthy. There are L1 speakers who are affected by initial proficiency levels and threshold effects as well. The findings were important because they helped reveal that when all L2 subjects get lumped together, some students' efforts often go unnoticed. This has implications for the personalized syllabus. The initial findings revealed that the L2 subjects did not benefit from treatment at all. The researchers' initial reaction was that this made sense since many of the L2 learners in the treatment group belonged to the limited proficiency group. Subsequent investigation involving only learners who had a satisfactory level of 2000 word knowledge detected that the proficient L2 learners in the treatment group were increasing their AWL level at a much more rapid rate than L2 subjects in the control group. These students were benefiting from the explicit instructional practices. Therefore, it was no longer a case of throwing the baby out with the bathwater. Fonfs and fonf approach can work provided a number of additional criteria are addressed.

Focus on Forms Activities

Moving on to focus on forms activities, which happen to be an important part of this study, there is increasing evidence in SLA research that states that the roles of form and meaning in vocabulary acquisition and processing in L1 and L2 are similar.

Psycholinguistic studies have shown that establishing accurate internal representations of formal attribute of keywords are important particularly in the early stages of discovery and consolidation practice. This research points to the need for a systematic vocabulary program (focus on forms) that will help learners compare the formal aspects of the word form with the other word meanings that are related to the various sense of the core and peripheral meanings. While the tasks used in this study did not directly address the systematic vocabulary syllabus, they did demonstrate that a set of focus on forms and focus on form vocabulary tasks aimed at getting learners to increase their word size, and collocation skills did have a positive effect on L2 learners. It is undeniable that both the L1 and L2 subjects were affected by differences in proficiency levels, and the differences could have affected the findings. Nevertheless, the study was important because it provided useful insights into the factors that limit and contribute to vocabulary learning.

Lexical Organization

Research questions 4 and 5 were more concerned with L2 learners' ability to use sequentially observed words which can be reflective of the L2 learner's ability to organize words. These questions were more interested in the internal processing mechanisms of the learner rather than the external mechanism (Research Question # 1-3). Lexical cross consultation such as assessing word meaning and word association is necessary because it provides insights into the learners' ability to tap into their receptive and productive word knowledge and use it automatically. The test was timed, and therefore it was also considered as a test of fluency and automaticity. The findings

revealed that L1 subjects knew a large number of word meanings and word collocations, and the relationship between word meaning and word collocation was strong and linear. This was no surprise and probably what is often seen as native speaker intuition. The L2 subjects did not have a closer relationship between word meanings and word collocations though the results were significant and were moving towards a linear relationship. Most L2 subjects who knew a large number of word meanings did not necessarily know a large number of word collocations and vice versa. The findings were predictable. Research has indicated that the L2 vocabulary acquisition process is slow, patchy and partial. However, with word learning being an accumulative process, some learners go on to develop at a more rapid rate compared to other learners. This is intrinsic.

Question 5 however, was able to show that through explicit form and forms instruction, (external mechanism) it was possible for L2 learners to obtain a closer relationship between the word meaning and word collocation scores through the revised DVK measure. While the learners did not necessarily increase their vocabulary size drastically (vocabulary learning being a slow and lengthy process with partial and precise knowledge), they managed to make associations that were closer to the L1 subjects in both control and treatment. This was the real meat and potatoes of the study. As stated in the earlier sections, lexical organization remains insignificant so long as the learner works from a small vocabulary size, and until the learner reaches a specific level of proficiency, the L2 learners' lexical organization will continue to be affected by a threshold that would not allow connecting the senses until the vocabulary restructures itself. Therefore, formal instruction plays a crucial role in systematic instruction where

learners are taught to restructure their vocabulary through size and depth. Vocabulary therefore becomes the building brick, and the instructor therefore becomes the stone mason.

Finally, it would be useful to briefly consider the impact of the findings for the L2 learners. The L2 treatment group outperformed the L2 control group in two cases:

- a) the collocation test, and
- b) on the PVLТ considering only the proficient subjects (i.e., those who scored above 80 % at the 2000 word level).

On other measures such as the Lexical Frequency Profile, and the word meaning section of the depth of Vocabulary Knowledge test, there were no significant differences between the L2 treatment group and the L2 control group. This implies for the subjects of the study that explicit teaching was only effective when a) students were beyond a threshold level, and b) they had an interest in the focus on forms activity and found it relevant to their needs.

Pedagogical Implications

Giving Meanings versus Guessing Meanings

From the findings from the task, it was increasingly evident that giving the answers in form focused instruction is no more effective to getting learners to learn new words than guessing within context. In fact, the former might even be less effective. Learners require in depth elaboration in order to consolidate word meanings and collocations. However, when instructors decide to provide the answers and associated

links, learners do not appear to notice the relevance of the word nor the significance of the form meaning link. Similarly, guessing through context does not contribute to elaboration and in fact by expanding on the context, the discourse may contribute to additional input that can obscure the actual meaning of the word. At this stage, the researcher needs to add that if applied linguists had realized that the environment was considered insufficient for acquiring grammar and FonFs and FonF activities were necessary for learning L2 grammar, it makes even less sense to use the grammar to explain the words for L2 subjects who clearly do not recognize the various linguistic forms and do not have the knowledge to understand abstract words. It makes much more sense to have a separate class where learners' threshold vocabulary can be addressed while they are working on their writing skills.

Word Meanings and Word Use

On a more detailed level, as revealed in exchanges in Chapter 4 (1) (4) despite the instructor's intention to use forms to explain the words, words (being arbitrary) do not lend themselves easily to linguistic elaborations. To borrow from Lewis Carroll in *Alice in Wonderland*, the learner uses a word simply because he "... choose it to mean what it means, neither more nor less..." From the study, it was evident that L2 learners were not concerned with the word because it accompanies a verb form. Rather, they (like many other learners), created English words by merely adding a suffix to the end of a word such as *cooker* for cook, *looker* for a watchman simply because they have been pressured to apply such linguistic forms by previous language instructors. The limited

experiences that learners bring to the language class tend to be varied and probably difficult to address. It would be a Promethean task for instructors to address all the vocabulary needs of their L2 learners, but this does not mean vocabulary should be sidelined continuously. In fact, the English 101 –108 composition classes may not even be the best place to address high frequency vocabulary as stated by one of the instructors. Instructors simply cannot continue to immerse L2 learners in the language pool and expect them to remain afloat when these learners hardly know how to swim. L2 learners need help with key academic vocabulary before they can succeed in the academic syllabus. Instructors must be far sighted enough to understand the long term needs of adult L2 learners.

Vocabulary Strategies

As far as vocabulary learning strategies are involved, there are a number of worrying trends in the present study. The first is that most L1 and L2 subjects knew very few vocabulary learning strategies. There were a number of students who did not use any vocabulary strategies. While most L1 students used an equal number of discovery and consolidation strategies, and L2 subjects used more consolidation strategies, there were fewer strategies that involved the deployment of systematic memory strategies involving repetition or metacognitive strategies. It might be useful if teachers placed greater emphasis on getting adult L1 and L2 students to use more vocabulary learning strategies. Concerning semantic associations, it was interesting that throughout the study, no instructor made use of images or visual representations to

enhance meanings or concepts. Given the role that images play in enhancing concepts and difficult structures, it would appear that instructors themselves need some understanding of the various word learning strategies and how some strategies help form basic concepts. Then again, from the interviews and face to face interaction, both L1 and L2 students appear to be contented with their existing vocabulary knowledge. Contentment leads to complacency which ultimately leads to declining academic performance. However, it was evident from the various findings that most of the L1 and L2 students did not score beyond 80% for most vocabulary levels on the PVLТ measures. While there is every possibility that a similar study in a different context could have produced contrasting results, it can be said for the subjects in this study, that all students would have benefited from fonf and fonfs activities if the tasks had been designed with a personalized syllabus in mind.

As stated by Paribakht and Wesche (1997) "... if systematic development of L2 vocabulary is desired, it cannot be left to the students themselves. Students cannot be expected to "pick up" substantial or specific vocabulary knowledge through reading exposure without guidance"(p.198). However, it is also possible that pre-planned vocabulary tasks that follow a one-size-fit-all formula might not serve the purpose of the instructors in the writing program. Individual instructors are probably the best people to know their learners' inadequacies. The importance of teaching the academic words cannot be dismissed because it has a positive effect on the learner's receptive and productive vocabulary.

Recommendations

Based on the research, there are several pertinent recommendations for instructors, administrators and language coordinators that should be considered for including explicit vocabulary instruction into the language programs.

1. Instructors should not look upon implicit learning as the only method for acquiring vocabulary in the formal context but should include explicit vocabulary instruction as well.
2. Language instructors may first need to spend time looking up research on academic and high frequency vocabulary.
3. While implicit and incidental learning will always remain, adult L2 learners must be explicitly taught to know the initial 2000 words, academic words and taught to use more vocabulary learning strategies.
4. There is the need for proper placement of L2 learners according to their vocabulary level in the writing classroom. This would foster a more personalized syllabus.
5. There is a need for closer collaboration between language researchers and other researchers involved in content-based instruction since researchers in one area may not necessarily understand another area of expertise.
6. The human subjects program should be more flexible in setting their demands for language researchers who carry out practical classroom research. Undue constraints places unnecessary limitations on useful practical SLA research.

7. The linguistic community should reconsider the place of vocabulary in language learning and be more accepting of vocabulary testing research.
8. SLA research needs to be more tolerant of quantitative studies because there are some areas of language learning that certainly benefit from focused and accurate measures which years of teaching and observation have failed to provide.

Currently, it is recommended that the study presented in this paper be repeated, but with a larger population of L2 learners of similar proficiency being assessed.

Limitations of the Study

Many of the learners did not see any link between the lessons and the vocabulary task. Some of the learners viewed it as busy work and not relevant to their needs. The study seems to have repeated the mistake in Ellis (1995) where the task was criticized by Erlam (1998) as being mechanical in nature and not meaningful enough. Some of the subjects found the task to be helpful but were not motivated to complete the word association tasks when answers were not provided. Their reasoning was that it was too much trouble to think, and besides the answers would be provided. This finding should be addressed alongside Van Patten's (2002) view that it is the element of the structured input and not the rule explanation that is key to acquisition. The task type could have affected the learners' performance. At this point, it would appear that by giving the answers in the FonF activities, learners were not noticing the words as well. In

sum, the *giving* method was just as bad as the *guessing* method when words are addressed in context.

It must also be noted that the study experienced a number of weaknesses and limitations in terms of task effectiveness and instructor differences. As such, it can be suggested that the effectiveness of some of the classes could have been related to the instructors' initiative and instructional conditions. Therefore, it would seem improper to use the results for making final or definitive conclusions about the current debate about the effectiveness of input implicit versus explicit instructional conditions and the effect of FonFs and FonF activities in the classroom setting. Similarly, mastering collocation skills is certainly among the more difficult skills and it can be a time consuming task. Therefore, a set of twenty words does not do justice to the L2 learner's mental lexicon. In other words, the weakness and limitations suggest that the results may need be interpreted with caution.

Conclusion

Finally, this is to say that this research came out of genuine concerns for language teachers and classroom practices. It served as an in-depth study of the various dimensions involved in the word learning process, some of which may be obvious to neither the learner nor the instructor. There are various internal and external mechanisms that need to be taken into account. While instruction does provide valuable meaningful input, and instructors help mediate such knowledge to make it more transparent to learners, there are still grey areas in the L2 vocabulary learning process

that instruction and laboratory experiments have been unable to permeate. In this manner, vocabulary testing research remain indispensable because it enables the researcher to critically examine methodologies and processing techniques. Similarly, vocabulary tests examining vocabulary size and depth play important roles because such instruments help provide in-depth and accurate insights into a particular area of language which may be obscured by qualitative research. While testing a particular area does set limitations to the extent to which the researcher is able to generalize the research, the qualitative data employed in this study provides additional credibility to the research findings. It is hoped that this research has served as a wedge to expose the limitations and possibilities that lie within collaborative research and its benefits for the L2 learner.

Appendix A: Survey

Sex: _____

Age: _____

- i) Mother tongue: _____
- ii) Number of languages (Spoken) _____
- iii) Major: _____ Humanities _____ Sciences
- iv) Preferred language : (Reading) _____
- v) Preferred Reading Material : _____
- vi) Length of Stay in the United States: 1year >2years > 5 years _____
- vii) Permanent Residence (Where you have stayed most of your life):

- vii Level of English (Written) : Beginner Intermediate Fluent

A.What do you usually do to discover the meaning of an English word that you do not know? (Place a tick, against the strategy if it applies to you)

Strategy

- _____ I analyze the part of speech
- _____ I analyze the word affixes and roots
- _____ I check for an L1 cognate (I try to link the English word to a Spanish word that reminds me of the former's form and meaning , e.g. history – historia)
- _____ I analyze any available pictures or gestures accompanying the word
- _____ I try to guess the word's meaning from the text/context in which the word appears
- _____ I look for the word's meaning in a bilingual dictionary
- _____ I look for the word's meaning in a monolingual dictionary
- _____ I learn the word through English Spanish wordlists
- _____ I deduce the meaning of the word from flashcards and posters shown by the teacher
- _____ I ask the teacher for an L1 translation (English into Spanish)
- _____ I ask the teacher for a paraphrase or synonym of the new word
- _____ I ask the teacher for a sentence including the new word
- _____ I ask classmates for the meaning of the word
- _____ I discover the new meaning through group work.

B. What do you usually do to consolidate the learning of a word after discovering its meaning?

Strategy

- I study and practice meaning in pairs/groups in class and outside class
- I keep a word list/card and my teacher checks for learning
- I try to use the new word in interactions with native speakers
- I study the new word with a pictorial representation of its meaning: through images, photographs or drawings
- I study the word by forming an image of it
- I connect the word meaning to a personal experience
- I associate the word with its word coordinates, for instance: apple with peach, orange...
- I connect the word to its synonyms and antonyms (opposites)
- I use semantic maps (word trees)
- I use 'scales' for gradable adjectives, for example: cold, colder, coldest; huge, big, medium-sized, small
- I use the peg method (linking the word to one that rhymes with it) to learn the word, for example: two is a show, three is a tree, four is a door....)
- I use the loci method to learn the word (I connect the new word to a familiar place)
- I group words together to study them, for instance, I relate the new word to other words from the same class, same meaning, same family, etc.
- I group words together spatially on a page, notebook or card by forming geometrical patterns, for instance, columns, triangles, squares, circles, curves, etc.
- I learn the new word in an English sentence
- I group words together within a storyline, for instance: 'fish', 'cats', 'like'
- I study the spelling of the word carefully
- I study the sound of the word carefully
- I say the new word aloud when studying
- I imagine the word form
- I underline the initial letter of the word
- I configurate the word (I arrange the word in parts, letters, etc. in order to memorize it better)
- I use the keyword method to learn the word (I connect the English word to a

another word by sound,

- I try to remember the word affixes and roots
- I try to relate the word to its part of speech (noun, verb, adjective, etc.)
- I paraphrase the word's meaning
- I connect the word to cognates (words of similar form and meaning in my own first language)
- I learn the words of an idiom together as if they were just one word
- I use physical action to learn a new word
- I use semantic feature grids, for example: man, woman= human beings; cat, dog= domestic animals (pets)
- I use verbal repetition of the word
- I write the words several times
- I use word lists and revise them
- I use flash cards with the representation of the word to consolidate meaning
- I take notes about the word in class
- I revise the vocabulary section in my textbook
- I listen to tapes of word lists
- I put English labels on physical objects
- I keep a vocabulary notebook
- I use English –language media (songs, movies, newcasts, etc.)
- I test myself with word tests
- I use spaced word practice to revise vocabulary
- I skip or pass the new word (I ignore it)
- I learn the word by using free associations form the new words, for example, from snow: winter, cold, coat, etc.
- I try to look for its meanings by googling it
- I use other strategies that do not appear in the list, for example:

Source: This test is based on Schmitt's taxonomy of vocabulary learning strategies, in N. Schmitt & P. McCarthy (eds.) (1997) *Vocabulary Description, Acquisition and Pedagogy*, Cambridge University Press., 206-68 and Catalan, 2004.

Appendix B :The Vocabulary Level's Test (Version A)

Complete the underlined words, The example has been done for you.

He was riding a bic ycle

The 2000 word level

1. I'm glad we had this opp_____ to talk.
2. There are a doz_____ eggs in the basket
3. Every working person must pay income t_____
4. The pirates buried the tre_____ on a desert island
5. Her beauty and cha_____ had a powerful effect on men.
6. La_____ of rain led to a shortage of water in the city
7. He takes cr_____ and sugar in his coffee.
8. The rich man died and left all his we_____ to his son.
9. Pup_____ must hand in their papers by the end of the week.
10. This sweater is too tight. It needs to be stret_____
11. Ann intr_____ her boyfriend to her mother.
12. Teenagers often adm_____ and worship pop singers
13. If you blow up that balloon any more it will bur _____
14. In order to be accepted into the university, he had to impr_____ his grades.
15. The telegram was deli_____ two hours after it had been sent.
16. The differences were so sl_____ that they went unnoticed.
17. The dress you're wearing is lov_____
18. He wasn't very popu_____ when he was a teenager, but he had many friends now.

The 3000 word level

1. He has a successful car____ as a lawyer.
2. The thieves threw ac_____ in his face and made him blind.
3. To improve the country's economy, the government decided on economic ref_____.
4. She wore a beautiful green go_____ to the ball.
5. The government tried to protect the country's industry by reducing the imp_____ of cheap goods.
6. The children's games were funny at first, but finally got on the parents' ner_____.
7. The lawyer gave some wise coun_____ to his client.
8. Many people in England mow the la_____ of their houses on Sunday morning.
9. The farmer sells the eggs that his he____ lays.
10. Sudden noises at night sca_____ me a lot.
11. France was proc_____ a republic in the 18th. Century
12. Many people are inj _____ in road accidents every year.
13. Suddenly he was thru_____ into the dark room.
14. He perc_____ a light at the end of the tunnel.
15. Children are not independent. They are att_____ to their parents.
16. She showed off her sle_____ figure in a long narrow dress.
17. She has been changing partners often because she cannot have a sta_____ relationship with one person.
18. You must wear a bathing suit on a public beach. You're not allowed to be na_____.

The 5000 word level

1. Soldiers usually swear an oa_____ of loyalty to their country.
2. the voter placed the ball _____ in the box.
3. They keep their valuables in a vau_____ at the bank.
4. A bird perched at the window led _____
5. A kitten is playing with a ball of ya_____.
6. The thieves have forced an ent_____ into the building.
7. The small hill was really a burial mou_____.

8. We decided to celebrate New Year's E_____ together.
9. The soldier was asked to choose between infantry and cav_____.
10. This is a complex problem which is difficult to compr_____.
11. The angry crowd sho_____ the prisoner as he was leaving the court.
12. Don't pay attention to this rude remark. Just ign_____ it.
13. The management held a secret meeting. The issues discussed were not disc_____ to the workers.
14. We could hear the sergeant bel_____ commands to the troops.
15. The boss got angry with the secretary and it took a lot of tact to soo_____ him.
16. We do not have adeq_____ information to make a decision.
17. She is not a child, but a mat_____ woman. She can make her own decisions.
18. The prisoner was put in soli_____ confinement.

The University Word List

1. There has been a recent tr_____ among prosperous families towards a smaller number of children.
2. The ar_____ of his office is 25 square meters.
3. Phil_____ examines the meaning of life.
4. According to the communist doc_____, workers should rule the world.
5. Spending many years together deepened their inti_____.
6. He usually read the sport sec_____ of the newspaper first.
7. Because of the doctors' strike the cli_____ is closed today.
8. There are several misprints on each page of this te_____.
9. The suspect had both opportunity and mot_____ to commit the murder.
10. They ins_____ all products before sending them out to stores.
11. A considerable amount of evidence was accum_____ during the investigation.
12. The victim's shirt was satu_____ with blood.
13. He is irresponsible. You cannot re_____ on him for help.
14. It's impossible to eva_____ these results without knowing about the research methods that were used.
15. He finally att_____ a position of power in the company.
16. The story tells us about a crime and subs_____ punishment.
17. In a hom_____ class all students are of a similar proficiency.
18. The urge to survive is inh_____ in all creatures.

The 10 000 –word level.

1. The baby is wet. Her dia_____ needs changing.
2. The prisoner was released on par_____.
3. Second year University students in the US are called soph_____.
4. Her favorite flowers were or_____.
5. The insect causes damage to plants by its toxic sec_____.
6. The evac_____ of the building saved many lives.
7. For many people, wealth is a prospect of unimaginable felic_____.
8. She found herself in a pred_____ without any hope for a solution.
9. The deac_____ helped with the care of the poor of the parish.
10. The hurricane whi_____ along the coast.
11. Some coal was still smol_____ among the ashes.
12. The dead bodies wee muti_____ beyond recognition.
13. She was sitting on a balcony and bas_____ in the sun.
14. For years waves of invader pill_____ towns along the coast.
15. The rescue attempt could not proceed quickly. It was imp_____ by bad weather.
16. I wouldn't hire him. He is unmotivated and indo_____.
17. Computers have made typewriters old fashioned and obs_____.
18. Watch out for his wil_____ tricks.

Appendix C: Vocabulary Size – Active Vocabulary (Version B)

Complete the underlined words. The example has been done for you.

He was riding a bic ycle

2000 words

1. It is the de _____ that counts, not the thought.
2. Plants receive water from the soil through their ro _____
3. The nu _____ was helping the doctor in the operating room.
4. Since he is unskilled, he earns low wa _____
5. This year long sk _____ are fashionable again.
6. Laws are based on the principle of jus _____
7. He is walking on the ti _____ of his toes.
8. The mechanic had to replace the mo _____ of the car.
9. There is a co _____ of the original report in the file.
10. They had to cl _____ a steep mountain to reach the cabin.
11. The doctor ex _____ the patient thoroughly
12. The house was su _____ by a big garden.
13. The railway con _____ London with its suburbs
14. She wan _____ aimlessly in the streets.
15. The organizers li _____ the number of participants to fifty.
16. This work is not up to your usu _____ standard.
17. They sat down to eat even though they were not hu _____
18. You must have been very br _____ to participate in such a dangerous operation.

Test 3000 word level

1. I live in a small apa _____ on the second floor.
2. The pro _____ of failing the test scared him.
3. Before writing the final version, the student wrote several dra _____.
4. It was a cold day. There was a ch _____ in the air.
5. The car is pulled by an o _____
6. Anthropologists study the struc _____ of ancient societies.
7. After two years in the Army, he received the rank of lieu _____
8. The statue is made of mar _____
9. Some aristocrats believed that blue blood flowed through their ve _____
10. The secretary assi _____ the boss in organizing the course.
11. His beard was too long. He decided to tr _____ it.
12. People were whir _____ around on the dance floor.
13. He was on his knees, ple _____ for mercy.
14. You'll sn _____ that branch if you bend it too far.
15. I won't tell anybody. My lips are sea _____
16. Crying is a nor _____ response to pain.
17. The Emperor of China was the supr _____ ruler of his country.
18. You must be awa _____ that very few jobs were available.

Test 5000 word level

1. Some people find it hard to be independent. They prefer to be tied to their mother's ap _____ strings.
2. After finishing his degree, he entered a new ph _____ in his career.
3. The workmen cleaned up the me _____ before they left.

4. On Sunday, in his last se_____ in church, the priest spoke against child abuse.
5. I saw them sitting on st_____ at the bar drinking beer.
6. His favorite musical instrument was a tru_____.
7. The building is heated by a modern heating appa_____.
8. He received many com_____ on his dancing skill.
9. People manage to buy houses by raising a mor_____ from a bank.
10. At the bottom of the blackboard there is a le_____ for chalk.
11. After falling off his bicycle, the boy was covered with bru_____.
12. The child was holding a doll in her arms and hu_____ it.
13. We'll have to be inventive and de_____ a scheme for earning more money.
14. The picture looks nice; the colors bl_____ really well.
15. Nuts and vegetables are considered who_____ food.
16. Many gardens are full of fra_____ flowers.
17. Many people feel depressed and gl_____ about the future of mankind.
18. He is so depressed that he is cont_____ suicide.

The University Word List

1. I've had my eyes tested and the optician says my vi_____ is good.
2. The anom_____ of his position is that he is the chairman of the committee, but isn't allowed to vote.
3. In their geography class, the children are doing a special pro_____ on North America.
4. In a free country, people are not discriminated against on the basis of color, age, or s_____.
5. A true dem_____ should ensure equal rights and opportunities for all citizens.
6. The drug was introduced after medical res_____ indisputably proved its effectiveness.
7. These courses should be taken in seq_____, not simultaneously.
8. Despite his physical condition, his int_____ was unaffected.
9. Governments often cut budgets in times of financial cri_____.
10. The job sounded interesting at first, but when he realized what it involved, his excitement sub_____.
11. Research ind_____ that men find it easier to give up smoking than women.
12. In a lecture, a lecturer does most of the talking. In a seminar, students are expected to part_____ in the discussion.
13. The airport is far away. If you want to en_____ that you catch your plane, you'll have to leave early.
14. It's difficult to ass_____ a person's true knowledge by one or two tests.
15. The new manager's job was to res_____ the company to its former profitability.
16. Even though the student didn't do well on the midterm exam, he got the highest mark on the fi_____.
17. His decision to leave home was not well thought out. It was not based on rat_____ considerations.
18. The challenging job required a strong, successful, and dyn_____ candidate.

The 10 000 Wordlist

1. The new vic_____ was appointed by the bishop.
2. If your lips are sore, try lip sal_____, not medicine.
3. Much to his chag_____, he was not offered the job.
4. The actors exchanged ban_____ with the reporters.
5. She wanted to marry nobility: a duke, a baron, or at a least a vis_____.
6. The floor in the ballroom was a mos_____ of paster colors.

7. She has contributed a lot of money to various charities. She is known for her generosity and bene_____.
8. This is an unusual singer with a range of three oct_____.
9. A thro_____ controls the flow of gas into an engine.
10. Anyone found loo_____ bombed houses and shops will be severely punished.
11. The crowd soon disp_____ when the police arrived.
12. The wounded man squi_____ on the floor in agony.
13. The dog crin_____ when it saw the snake.
14. He imme_____ himself in a hot bubbly bath forgetting all his troubles for a moment.
15. The approaching storm stam_____ the cattle into running wildly.
16. The problem is beginning to assume mam_____ proportions.
17. His vind_____ behaviour toward the thief was understandable.
18. He was arrested for illi_____ trading in drugs.

Appendix D- Depth of Vocabulary Knowledge Test

Directions: In this test, there are 40 items. Each item looks like this:

Sound

(A)logical	(B)healthy	(c) bold	(d)solid	(E)snow	(f)temperature	(g)sleep	(h)dance
------------	------------	----------	----------	---------	----------------	----------	----------

Please note

Some of the words here in the left box are similar to the meaning of sound	Some of the words in the right box are nouns than can be used after sound in a phrase or a sentence
--	---

There are eight words in the two boxes, but only four of them are correct words.

In the left box, “logical”, “healthy” and “solid” all share the meaning of “sound”.	We do not normally say “sound snow”, “sound temperature” or “sound dance”, but we often say “sound sleep”, so “sleep” is the correct answer on this side.
---	---

On your Answer Sheet, you should mark the answers by blackening the corresponding letters with a pencil like this:

<input checked="" type="radio"/> logical	<input checked="" type="radio"/> healthy	(C) bold	<input checked="" type="radio"/> Solid	(E) snow	(F)temperature	<input checked="" type="radio"/> sleep	(H)dance
--	--	----------	--	----------	----------------	--	----------

Note: In this example there are three correct answers on the left and one on the right, but in some other items there will be either one on the left and three on the right, or two on the left and two on the right.

Now practice with two more items. The correct answers to these items will be provided by the Proctor at the end of your practice.

Digital

(A)numerical	(B)valuable	(c)binary	(D)body	(E)computer	(F)liquid	(G)keyboard	(H)wind
--------------	-------------	-----------	---------	-------------	-----------	-------------	---------

Outstanding

(A)limited	(B)exceptional	(C)strange	(D)expectant	(E)example	(F)mistake	(G)contribution	(H)painter
------------	----------------	------------	--------------	------------	------------	-----------------	------------

Now you can turn to the next page to begin the test. Please mark your answers on the Answer Sheet.

Program _____

First Language: _____

1. Peak

(A)initial	(B)top	(C)crooked	(D)punctual	(E)time	(F)performance	(G)beginning	(H)speed
------------	--------	------------	-------------	---------	----------------	--------------	----------

2. Accurate

(A)exact	(B)helpful	(C)responsible	(D)reliable	(E)error	(F)event	(G)memory	(H)estimate
----------	------------	----------------	-------------	----------	----------	-----------	-------------

3. Dense

(A)transparent	(B)acceptable	(C)compact	(D)thick	(E)hair	(F)view	(G)wood	(H)material
----------------	---------------	------------	----------	---------	---------	---------	-------------

4. Troublesome

(A)annoying	(B)irritating	(C)dangerous	(D)bothersome	(E)favor	(F)relief	(G)weeds	(H)opportunity
-------------	---------------	--------------	---------------	----------	-----------	----------	----------------

5. Devoted

(A)dedicated	(B)relevant	(C)loyal	(D)elected	(E)follower	(F)instance	(G)requirement	(H)patriot
--------------	-------------	----------	------------	-------------	-------------	----------------	------------

6. Wild

(A)sound	(B)uncultivated	(C)uncivilized	(D)disappointed	(E)calm	(F)mob	(G)refinement	(H)berries
----------	-----------------	----------------	-----------------	---------	--------	---------------	------------

7. Insufficient

(A)ungrateful	(B)inexpressible	(C)discontented	(D)inadequate	(E)lack	(F)resources	(G)amount	(H)need
---------------	------------------	-----------------	---------------	---------	--------------	-----------	---------

8. Considerable

(A)significant	(B)outright	(C)great	(D)large	(E)change	(F)condition	(G)release	(H)nature
----------------	-------------	----------	----------	-----------	--------------	------------	-----------

9. Obscure

(A)unclear	(B)unknown	(C)vague	(D)old	(E)product	(F)appraisal	(G)origin	(H)demand
------------	------------	----------	--------	------------	--------------	-----------	-----------

10. Minute

(A)tiny	(B)timely	(C)incorrect	(D)hard	(E)adjustment	(F)preconception	(G)imperfection	(H)particle
---------	-----------	--------------	---------	---------------	------------------	-----------------	-------------

11. Consecutive

(A)successive	(B)final	(C)fateful	(D)required	(E)attempts	(F)matches	(G)aspects	(H)terms
---------------	----------	------------	-------------	-------------	------------	------------	----------

12. Narrow minded

(A)bigoted	(B)intolerant	(C)stupid	(D)uniform	(E)remark	(F)creation	(G)people	(H)wisdom
------------	---------------	-----------	------------	-----------	-------------	-----------	-----------

13. Key

(A)primary	(B)fundamental	(C)hidden	(D>false	(E)issues	(F)purpose	(G)wealth	(H)duration
------------	----------------	-----------	----------	-----------	------------	-----------	-------------

14. Overall

(A)general	(B)special	(C)comprehensive	(D)best	(E)component	(F)action	(G)responsibility	(H)goal
------------	------------	------------------	---------	--------------	-----------	-------------------	---------

15. Surplus

(A)valuable	(B)problematic	(C)strong	(D)extra	(E)sorrow	(F)supplies	(G)food	(H)revenues
-------------	----------------	-----------	----------	-----------	-------------	---------	-------------

16. Appealing

(A)prevalent	(B)likeable	(C)attractive	(D)pleasing	(E)city	(F)conflict	(G)prominence	(H)objection
--------------	-------------	---------------	-------------	---------	-------------	---------------	--------------

17. Organic

(A)living	(B)advanced	(C)inspired	(D)colorful	(E)compound	(F)farm	(G)matter	(H)requirement
-----------	-------------	-------------	-------------	-------------	---------	-----------	----------------

18. Vivid

(A)bright	(B)intense	(C)intelligent	(D)visual	(E)description	(F)exception	(G)reception	(H)coloring
-----------	------------	----------------	-----------	----------------	--------------	--------------	-------------

19. Leading

(A)foremost	(B)principal	(C)developed	(D)competitive	(E)scientist	(F)society	(G)work	(H)producer
-------------	--------------	--------------	----------------	--------------	------------	---------	-------------

20. Daring

(A)brave	(B)bold	(C)late	(D)upsetting	(E)feat	(F)escape	(G)problem	(H)sleep
----------	---------	---------	--------------	---------	-----------	------------	----------

21. Celebrated

(A)renowned	(B)festive	(C)well known	(D)famous	(E)persuasion	(F)recognition	(G)understanding	(H)play
-------------	------------	---------------	-----------	---------------	----------------	------------------	---------

22. Fine

(A)excellent	(B)average	(C)constant	(D)natural	(E)day	(F)athlete	(G)removal	(H)china
--------------	------------	-------------	------------	--------	------------	------------	----------

23. Powerful

(A)potent	(B)definite	(C)influential	(D)supportive	(E)position	(F)engine	(G)repetition	(H)price
-----------	-------------	----------------	---------------	-------------	-----------	---------------	----------

24. Conventional

(A)traditional	(B)practical	(C)neat	(D)expensive	(E)clothing	(F)warfare	(G)methods	(H)awkwardness
----------------	--------------	---------	--------------	-------------	------------	------------	----------------

25. Deceptive

(A>wishful	(B)misleading	(C)polite	(D)dramatic	(E)inspiration	(F)argument	(G)intent	(H)appearance
------------	---------------	-----------	-------------	----------------	-------------	-----------	---------------

26. Crude

(A)sympathetic	(B)unprocessed	(C)unrefined	(D)rude	(E)respect	(F)value	(G)detail	(H)oil
----------------	----------------	--------------	---------	------------	----------	-----------	--------

27. Brief

(A)short	(B>fleeting	(C)quick	(D)clear	(E)help	(F)summer	(G)tool	(H)approach
----------	-------------	----------	----------	---------	-----------	---------	-------------

28. Fake

(A)fabulous	(B)imitation	(C)splendid	(D)counterfeit	(E)fur	(F)experience	(G)attraction	(H)identity
-------------	--------------	-------------	----------------	--------	---------------	---------------	-------------

29. Remote

(A)mental	(B)distant	(C)reasonable	(D)far	(E)location	(F)knowledge	(G)package	(H)era
-----------	------------	---------------	--------	-------------	--------------	------------	--------

30. Essential

(A)vital	(B)necessary	(C)sensible	(D)critical	(E)loss	(F)nutrients	(G)outlook	(H)luxury
----------	--------------	-------------	-------------	---------	--------------	------------	-----------

31. Adjacent

(A)nearby	(B)private	(C)adjoining	(D)genuine	(E)property	(F)suburbs	(G)plans	(H)silence
-----------	------------	--------------	------------	-------------	------------	----------	------------

32. Avid

(A)sarcastic	(B)enthusiastic	(C)eager	(D)reckless	(E)report	(F)eater	(G)reader	(H)request
--------------	-----------------	----------	-------------	-----------	----------	-----------	------------

33. Elaborate

(A)concealed	(B)evolved	(C)intricate	(D)generous	(E)void	(F)precautions	(G)system	(H)network
--------------	------------	--------------	-------------	---------	----------------	-----------	------------

34. Terse

(A)heated	(B)concise	(C)delicate	(D)abrupt	(E)attitude	(F)reply	(G)expectation	(H)style
-----------	------------	-------------	-----------	-------------	----------	----------------	----------

35. Contaminated

(A)rejected	(B)infected	(C)unclean	(D)convenient	(E)weather	(F)news	(G)site	(H)needle
-------------	-------------	------------	---------------	------------	---------	---------	-----------

36. Prolonged

(A)lengthened	(B)extended	(C)continued	(D)boring	(E)willingness	(F)road	(G)space	(H)illness
---------------	-------------	--------------	-----------	----------------	---------	----------	------------

37. Irrevocable

(A)unalterable	(B)irreversible	(C)unchangeable	(D)impossible	(E)pretense	(F)quantity	(G)nonsense	(H)step
----------------	-----------------	-----------------	---------------	-------------	-------------	-------------	---------

38. Perceptible

(A)present	(B)surprising	(C)visible	(D)initial	(E)motion	(F)personality	(G)star	(H)flaw
------------	---------------	------------	------------	-----------	----------------	---------	---------

39. Perpetual

(A)permanent	(B)unbelievable	(C)everlasting	(D)continual	(E)level	(F)cold	(G)book	(H)foresight
--------------	-----------------	----------------	--------------	----------	---------	---------	--------------

40. Recurring

(A)recent	(B)repeated	(C)respectable	(D)resolute	(E)dream	(F)nation	(G)complaint	(H)theme
-----------	-------------	----------------	-------------	----------	-----------	--------------	----------

Appendix E: Sample Task

A: Complete the underlined words, The example has been done for you.

He was riding a bicycle

1. It was found that there was no appar_____ abnormalities in the cell population in res_____ to placental growth factors.
2. As it was Basie who established swing as one of jazz's predomi_____ styles, no celebra_____ of his music would be complete with out the dance.
3. The Open Sour_____ Gurus Conve_____ at Seattle to discuss issues surrounding the viability of making money.
4. The wil_____ dogs of the Dark Peak present a viv_____ contrast with the vibrant purple heather moors and fragrant hay meadows.
5. It has been found that pronon_____ oral treatment with an essent_____ amino acid L-leucine does not affect the female reproductive functions in rats.
6. Given the long history of hoaxes involving such perpet_____ motion devices, claims of this sort have hitherto been met with considerable sceptic _____ from the general public.
7. Thus, organ_____ farming has become an aim in itself, an ideol_____ that may exclude other more effective solutions to the environmental problems.
8. I have read a number of obsc_____ fairy tales while resear_____ about the wild country.
9. If there was a violation of proce_____ on the part of the officer several minu_____ ago, then you may have grounds to dispute the fin_____.
10. It is vital to note that decept_____ idleness can cause an over_____ degradation of work performance.

Appendix F: Interview Questions

A: Instructors

(Pre)

1. How do you address vocabulary in class?
2. Do you feel that your students have sufficient vocabulary knowledge?
3. Have you made students focus on any aspect of vocabulary knowledge during the classes

(Post)

1. How do you feel about explicit/ implicit teaching of vocabulary?
2. Do you believe that your L2 learners have increased their vocabulary knowledge?
3. Do you believe that learners will be able to use a word correctly without knowing its meaning?
4. Do you think L2 native speakers benefit from in depth explanations about a word?
5. Do you see it possible for a learner with a limited vocabulary to do well in academic writing?
6. What would you consider as a contributing factor to learners' lack of vocabulary knowledge?
7. What is your opinion about teaching vocabulary as a separate skill?

B: Students

1. What do you think of the words used in your language classroom? Do you think that they are sufficient for your writing requirement and language learning process? Do you find the interaction with native speakers useful?
2. Think back to an English class where you encountered difficult words. Do you feel nervous that you did not understand them? What did you do about it?
3. Suppose that you will have to take an important vocabulary test to pass the course tomorrow. What will you do about this situation?
4. Suppose that you are in the process of writing a paper. Which aspect of the language would you be most concerned with? How would you overcome that?
5. Think back to a lesson, when the instructor made you examine a number of difficult words. Did you find it useful? Do you think that there is a better way of addressing it?

REFERENCES

- Anderson, J.R. (1983). *The architecture of cognition*. Cambridge, MA: Harvard University Press.
- Anderson, R. J. (1996). Sheltered instruction for language minority populations. *Notes on Literacy*, 22(1), 48-49.
- Arnaud, P.J.L. (1992). Teaching and learning vocabulary. *Applied Linguistics*, 13(3), 326-328.
- Atkinson, D. (2002). Toward a sociocognitive approach to second language acquisition. *The Modern Language Journal*, 2002, 86, 4, Winter, 86(4), 525-545.
- Bachman, L. F. (2000). Modern language testing at the turn of the century: Assuring that what we count counts. *Language Testing*, 2000, 17, 1, Jan, 17(1), 1-42.
- Bachman, L.F. & Cohen, A.D. (1998). Language Testing –SLA interfaces: an update. In Bachman, L.F. and Cohen, A.D. ed. *Interfaces between second language acquisition and language testing research*. Cambridge: Cambridge University Press.
- Bachman, L.F. & Davidson, F & Foulkes, J. (1990). A comparison of the abilities measured by the Cambridge and educational testing service EFL Test Batteries. *Issues in Applied Linguistics*, 1(1), 30-35.
- Bachman, L.F. & Palmer, A.S. (1996). *Language testing in practice*. New York. Oxford U. Press.
- Bachman, L.F. (1989). Assessment and evaluation. *Annual Review of Applied Linguistics*. 10, 210-226.
- Batstone, R. (2002). Contexts of engagement: A discourse perspective on “intake” and “pushed” output. *System*, 30 (1), 1-14.
- Beglar, D. & Hunt, A. (1999). Revising and validating the 2000 word level and university word level vocabulary tests. *Language Testing*, 16, 131-162.
- Benati, A. (2005). The effects of processing instruction, traditional instruction and meaning- output instruction on the acquisition of the English past simple tense. *Language Testing Research*, 9(1), 67-93.

- Bensoussan, M., & Laufer, B. (1984). Lexical guessing in context in EFL reading comprehension. *Journal of Research in Reading* 7: 15-32.
- Birdsong, D. (ed). *Second language acquisition and the critical period hypothesis*. Mahwah, NJ: Erlbaum.
- Bley-Vroman, R. (1988). The fundamental character of foreign language learning. In *Grammar and second language teaching: A book of readings* W. Rutherford and M. Sharwood-Smith (eds), 19-30, New York: Newbury House.
- Cadierno, T. (1995). Formal instruction from a processing perspective: An investigation into the Spanish past tense. *The Modern Language Journal*, 79, 179-193.
- Cameron, L. (2002). Measuring vocabulary size in English as an additional language. *Language Teaching Research*, 2002, 6(2), 145-173.
- Campion, M. E. and Elley, W.B. (1971). *An academic vocabulary list*. Wellington: NZCER.
- Carroll, S., Swain, M., & Roberge, Y. (1992). The role of feedback in adult second language acquisition: Error correction and morphological generalizations. *Studies in Second Language Acquisition*, 15, 357-386.
- Catalan, J. (2003). Sex differences in L2 vocabulary learning strategies. *Internal Journal of Applied Linguistics*. 13,(4) 1, 54-76.
- Chapelle, C. A. (1998). Research on the use of technology in TESOL: Analysis of interaction sequences in computer-assisted language learning. *TESOL Quarterly*, 1998, 32, 4, winter, 32(4), 753-757.
- Cho, K. S. and Krashen, S. (1994). Acquisition of vocabulary from the Sweet Valley Kids series: Adult ESL acquisition. *Journal of Reading*, 37: 662-667.
- Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge: MIT Press.
- Chun, M. M. (2000). Contextual cueing of visual attention. *Trends in Cognitive Science*, 4(5), 170-178.
- Coady, J., & Huckin, T. (1997). Incidental Vocabulary Acquisition in a Second Language: A Review. *Studies in Second Language Acquisition*, 1999, 21, 2, 181 -193.
- Cohen, A. & Cavalcanti, M. (1987). Giving and getting feedback on compositions: A comparison of teacher and student verbal report. *Evaluation and Research in Education*, 1, 63-73.

- Collentine, J., & Freed, B. F. (2004). Learning context and its effects on second language acquisition: Introduction. *Studies in Second Language Acquisition*, 26(2), 153-171.
- Coxhead, A. (2000). A new academic word list. *TESOL Quarterly*, 2000, 34, 2, summer, 34(2), 213-238.
- Crookes, G. (1997). What influences what and how second and foreign language teachers teach? *The Modern Language Journal*, 1997, 81, 1, spring, 81(1), 67-79.
- Cummins, J. (2001). Assessment and intervention with culturally and linguistically diverse learners. In S. R. Hurley & J.V. Tinajero (eds.), *Literacy assessment of second language learners*. Boston: Allyn and Bacon.
- Danesi, M. (1998). The foreign language classroom: Bridging theory and practice. *The Canadian Modern Language Review/La Revue canadienne des langues vivantes*, 54(3), 436-438.
- Day, R. R., Omura, C. and Hiramatsu, M. (1991). Incidental EFL vocabulary learning and reading. *Reading in a Foreign Language*, 8, 689-696.
- De Groot, A. M.B. (1983). Word type effects in bilingual processing tasks: support for a mixed representational system. In R. Schreuder & B. Weltens (Eds.), *The Bilingual Lexicon* (pp. 27-51). Amsterdam and Philadelphia: Benjamins.
- De la Fuente, M. J. (1998). *Negotiation and oral acquisition of Spanish L2 vocabulary: The roles of input and output in the receptive and productive acquisition of words*. Unpublished doctoral dissertation, Georgetown University, Washington, D.C.
- De la Fuente, M.J. (2002). Negotiation and oral acquisition of L2 vocabulary: The roles of input and output in the receptive and productive acquisition of words. *Studies in Second Language Acquisition*, 24(1), 81-112.
- DeKeyser, R. (2001). The differential role of comprehension and production practice. *Language Learning*, 51, 1, 81-112.
- DeKeyser, R. (2003). Implicit and explicit learning. In C. Doughty & M.H. Long (Eds.), *The handbook of second language acquisition* (pp. 313-347). Oxford, UK: Blackwell.
- DeKeyser, R. (2003). The effect of error correction on L2 grammar knowledge and oral proficiency. *The Modern Language Journal*, 77(4), 501-514.
- DeKeyser, R. M. (1997). Learning second language grammar rules: An experiment with a miniature linguistic system. *Studies in Second Language Acquisition*, 19, 249-297.

- DeKeyser, R. M., & Sokalski, K. J. (1996). The differential role of comprehension and production practice. *Language Learning*, 1996, 46, 4, Dec, 46(4), 613-642.
- Dornyei, Z. (2003). Attitudes, Orientations, and Motivations in Language Learning: Advances in Theory, Research, and Applications. *Language Learning*, 53, Supplement 1, 3-32.
- Doughty, C. (2004). Commentary: When PI is focus on form it is very, very good, but when it is focus on forms . In B. Van Patten (Ed.), *Processing instruction: Theory, research and commentary* (pp. 257-270). Mahwah, NJ: Lawrence Erlbaum.
- Doughty, C., & Williams, J. (1998). Pedagogical choices in focus on form. *Focus on form in classroom second language acquisition*. (pp. 197-261). Cambridge, UK.: Cambridge University Press.
- Dupuy, B. & Krashen, S. (1993). Incidental vocabulary acquisition in French as a foreign language. *Applied Language Learning*, 4, 55-63.
- Eichenbaum, H., & Cohen, N. J. (2001). *From condition to conscious recollection : Memory systems of the brain*. Oxford, UK: Oxford University Press.
- Ellis, R., & He, X. (1999). The roles of modified input and output in the incidental acquisition of word meanings. *Studies in Second Language Acquisition*, 1999, 21, 2, June, 21(2), 285-301.
- Ellis, R., Basturkmen, H. and Loewen, S. (2002). Doing focus on form. *System*, 30: 419-432.
- Ellis, R., Tanaka & A. Yamazaki (1994). Classroom interaction, comprehension, and the acquisition of L2 word meanings. *Language Learning*, 44, 449-491.
- Engber, C. A. (1995). The relationship of lexical proficiency to the quality of ESL compositions. *Journal of Second Language Writing*, 4, 139-155.
- Erlam, R. (2003). Evaluating the relative effectiveness of structured input and output based instruction in foreign language learning: results from an experimental study. *Studies in Second Language Acquisition*, 25, 559-82.
- Faerch, C. & Kasper, G. (1984). Two ways of defining communication strategies. *Language Learning* 34, 45-63.
- Farell, P. (1990). Vocabulary in ESP: a lexical analysis of the English of electronics and a study of semi technical vocabulary. *CLCS Occasional Paper No. 25*. Trinity College.

- Favreau, M., & Segalowitz, N. (1983). Automatic and controlled processes in the first and second language reading of fluent bilinguals. *Memory & Cognition*, 11, 565-574.
- Firth, A. & Wagner, J. (1997). On discourse communication, and (some) fundamental concepts in SLA research. *The Modern Language Journal*, 81, 285-312.
- Folse, K. S. (2004). Myths about teaching and learning second language vocabulary: What recent research says. *TESL Reporter*, 2004, 37, 2, Oct, 37(2), 1-13.
- Folse, K.S. (2006). The effect of type of written exercise on L2 vocabulary retention. *Tesol Quarterly*, 40(2), 273-293.
- Fraser, C. A. (1999). Lexical processing strategy use and vocabulary learning through reading. *Studies in Second Language Acquisition*, 21(2), 225-241.
- Friederici, A. D. (2002). Towards a neural basis of auditory sentence processing. *Trends in cognitive science*, 6(2), 78-84.
- Gass, S. (1999). Incidental vocabulary learning. *SSLA*, 21, 319-333.
- Gass, S. M., Mackay, A., & Pica, T. (1998). The role of input and interaction in second language acquisition: Introduction to the special issue. *The Modern Language Journal*, 82(3), 299 -307.
- Ghadessy, M. (1979). Frequency counts, word lists, and materials preparation: a new approach. *English Teaching Forum* 17, 1:24-27.
- Gopher, D. (1992). Analysis and measurement of mental workload. In G.d'Ydewalle, P. Eelen, & P. Bertelson (Eds.), *International perspectives on psychological science: Vol. 2. State of the art* (pp. 265-291). Mahwah, NJ : Lawrence Erlbaum.
- Grabe, W., & Stoller, F. L. (1997). Content-based instruction: Research foundations. In M. A. Snow, & D. M. Brinton (Eds.), *The content-based classroom: Perspectives on integrating language and content* (pp. 5-21). White Plains, NY: Longman.
- Groot, P.J.M. (2000). Computer assisted second language vocabulary acquisition. *Language Learning and Technology*, 4, 60-81
<http://llt.msu.edu/vol4num1/groot/default.html>
- Haastrup, K. (1991). Lexical inferencing procedures or talking about words. *Language Development* 14, 40.

- Harklau, L. (2002). The role of writing in classroom second language acquisition. *Journal of Second Language Writing*, 2002, 11, 4, Nov, 11(4), 329-350.
- Hazenbergh, S. and Hulstijn, J. (1996). Defining a minimal second language vocabulary for non native university students: an empirical investigation. *Applied Linguistics*, 17, 145- 163.
- Henriksen, B. (1999). Three dimensions of vocabulary development. *Studies in Second Language Acquisition*, 21, 2, June, 21(2), 303-317.
- Hill, M., & Laufer, B. (2003). Type of task, time-on-task and electronic dictionaries in incidental vocabulary acquisition. *IRAL*, 41(2), 87-106.
- Hirsh, D. and P. Nation. (1992). What vocabulary size is needed to read unsimplified texts for pleasure? *Reading in a Foreign Language*, 8, 2: 689-696.
- Hulstijn, J. H., Hollander, M., & Greidanus, T. (1996). Incidental vocabulary learning by advanced foreign language students: The influence of marginal glosses, dictionary use, and reoccurrence of unknown words. *The Modern Language Journal*, 80 (3), 327-339.
- Hymes, D. (1974). Models of interactions and language and social life. *Directions in Sociolinguistics*. Eds. J.J. Gumperz and Dell Hymes. New York: Holt, Rinehart & Winston, 35-71.
- Jimenez Catalan, R. M. (2003). Sex differences in L2 vocabulary learning strategies. *International Journal of Applied Linguistics*, 13(1), 54-77.
- Joe, A. (1995). Text-based tasks and incidental vocabulary learning. *Second Language Research*, 1995, 11, 2, June, 11(2), 149-158.
- Kitajima, R. (2001). The effects of instructional conditions on student's vocabulary retention. *Foreign Language Annals*, 34, 470- 482.
- Krashen, S. (1985). *The Input Hypothesis: Issues and Implications*. New York: Longman.
- Krashen, S. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *The Modern Language Journal*, 1989, 73, 4, winter, 73(4), 440-464.
- Krashen, S., (1985). *The input hypothesis: Issues and implications*. , Laredo, Beverly Hills, CA.

- Kucera, H., & Francis, W.M. (1967). *A Computational Analysis of Present day American English*. Providence, RI: Brown University Press.
- Laiji-Rodriguez, W., Ochoa, S.H. & Parker, R. (2006). The crosslinguistic role of cognitive academic language proficiency on reading growth in Spanish and English. *Bilingual Research Journal*, 30(1), 87-106.
- Lantolf, J.P. (Ed.) (2000). *Sociocultural Theory and Second Language Learning*. Oxford: Oxford University Press.
- Laufer, B. (1994). The lexical profile of second language writing: Does it change over time? *RELC Journal*, 25, 2, Dec, 25(2), 21-33.
- Laufer, B. (1997). The lexical plight in second language reading: Words you don't know, words you think you know, and words you can't guess. *Second language vocabulary acquisition: A rationale for pedagogy*. Coady, J. & Huckin, T. (eds). England: Cambridge U Press, 20-34.
- Laufer, B. (2003). Vocabulary acquisition in a second language: Do learners really acquire most vocabulary by reading? Some empirical evidence. *The Canadian Modern Language Review/La Revue canadienne des langues vivantes*, 2003, 59, 4, June, 59(4), 567-587.
- Laufer, B. (2005). Focus on form in second language vocabulary learning. *EUROSLA Yearbook*, 2005, 5, 5, 223-250.
- Laufer, B. (2006). Comparing focus on form and focus on forms in second-language vocabulary learning. *The Canadian Modern Language Review/La Revue canadienne des langues vivantes*, 2006, 63, 1, Sept, 63(1), 149-166.
- Laufer, B., & Goldstein, Z. (2004). Testing vocabulary knowledge: Size, strength, and computer adaptiveness. *Language Learning*, Sept, 54(3), 399-436.
- Laufer, B., & Nation, P. (1995). Vocabulary size and use: Lexical richness in L2 written production. *Applied Linguistics*, 16, 3, Sept, 16(3), 307-322.
- Laufer, B., & Nation, P. (1999). A vocabulary-size test of controlled productive ability. *Language Testing*, Jan, 16(1), 33-51.
- Laufer, B., & Yano, Y. (2001). Understanding unfamiliar words in a text: Do L2 learners understand how much they don't understand? *Reading in a Foreign Language*, spring, 13(2), 549-566.

- Laufer, B., & Sim, D. D. (1985). Taking the easy way out: Nonuse and misuse of contextual clues in EFL reading comprehension. *English Teaching Forum*, 23(2), 7-10.
- Leow, R. P. (1997). Attention, awareness, and foreign language behavior. *Language Learning*, 47, 467-506.
- Linnarud, M. (1986). *Lexis in Composition: A Performance Analysis of Swedish Learner's Written English*. Malmö: CWK Gleerup.
- Liu, E. T. K., & Shaw, P. M. (2001). Investigating learner vocabulary: A possible approach to looking at EFL/ESL learners' qualitative knowledge of the word. *Iral*, 39(3), 171-194.
- Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W.C. Ritchie & T.K. Bathia (Eds.) *Handbook of research on second language* (pp. 413-468). San Diego, CA: Academic Press.
- Long, M. H. (1983). Does second language instruction make a difference? A review of research. *TESOL Quarterly*, 17(3), 359-382.
- Long, M. H. (1991). Focus on form: a design feature in language teaching methodology. In *Foreign Language Research in Cross Cultural Perspective*, K. de Bot, R. Ginsberg, and C. Kramsh (eds), 39-52, Amsterdam: John Benjamins.
- Long, M. H. (1997). Authenticity and learning potential in L2 classroom discourse. In *language classrooms of tomorrow: Issues and responses*. Eds. George Jacobs. Anthology Series (38), RELC, Singapore.
- Long, M. H., & Robinson, P. (1998). Focus on form: Theory, research, and practice. *Focus on form in classroom second language acquisition* (pp. 15-41). Cambridge, UK: Cambridge University Press.
- Long, M. H., Inagaki, S., & Ortega, L. (1998). The role of implicit negative feedback in SLA: Models and recasts in Japanese and Spanish. *The Modern Language Journal*, autumn, 82(3), 357-371.
- Loschky, L. C. (1994). Comprehensible input and second language acquisition: What is the relationship? *Studies in Second Language Acquisition*, 16, 303-325.
- Loschky, L., & Bley Vroman, R. (1993). Grammar and task based learning. In Crookes & S. Gass (Eds.), *Tasks and language learning: Integrating theory and practice* (pp. 123-167). Clevedon, UK: Multilingual Matters.

- Lowie, W. M. (2000). Cross linguistic influence on morphology in the bilingual mental lexicon. *Studia Linguistica*, 54(2), 175 –185.
- Luppescu, S. and Day, R. R. (1993). Reading, dictionaries and vocabulary learning. *Language Learning*. 43, 263-287.
- Lynn, R. W. (1973). Preparing word lists: a suggested method. *RELC Journal* 4, 25-32.
- Mackey, A. (1999). Input, interaction, and second language development. *Studies in Second Language Acquisition*, 21, 557-587.
- Martin, A. V. (1976). Teaching academic vocabulary to foreign graduate students. *Tesol Quarterly*. 10, 91-97.
- Matsuda, P. K., Canagarajah, A. S., Harklau, L., Hyland, K., & Warschauer, M. (2003). Changing currents in second language writing research: A colloquium. *Journal of Second Language Writing*, May, 12(2), 151-179.
- McLaughlin, B. (1987). *Theories of second language learning*. London: Edward Arnold.
- McMillan, J. H., & Schumacher, S. (1997). *Research in education: A conceptual introduction* (4th. Ed.). New York, NY: Addison Wesley Longman, Inc.
- Meara, P. (1996). The dimensions of lexical competence. In G. Brown, K. Malmkjaer and J. Williams (eds.), *Performance and competence in second language Acquisition* (pp. 35-53). Cambridge University Press.
- Meara, P. (2002). Review Article: The rediscovery of vocabulary. *Second Language Research*, 18(4), 393-407.
- Meara, P. (2004). Modelling vocabulary loss. *Applied Linguistics*, 25(2), 137-155.
- Meara, P. & Wolter (2004). V_links: Beyond Vocabulary Depth. *Angles on the English Speaking World*, 4, 85-96.
- Mondria, J. A., & Wit-de Boer, M. (1991). The effects of contextual richness on the guessability and the retention of words in a foreign language. *Applied Linguistics*, 12(3), 249-267.
- Muncie, J. (2002). Process writing and vocabulary development: comparing lexical frequency profiles across drafts. *System*, 30, 225-235.

- Nagy, W. E., Herman, P. A., & Anderson, R. C. (1987). Learning word meanings from context during normal reading. *American Educational Research Journal, summer, 24*(2), 237-270.
- Nassaji, H. (2004). The relationship between depth of vocabulary knowledge and L2 learners' lexical inferencing strategy use and success. *The Canadian Modern Language Review/La Revue canadienne des langues vivantes, 61*(1), 107-134.
- Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.
- Nation, I.S.P. (1990). *Teaching and learning vocabulary*. New York: Newbury House.
- Nation, I.S.P. (1993). Beginning to learn foreign vocabulary: a review of the literature. *RELC Journal, 13*, 14-36.
- Nation, I.S.P. (eds.) (1986). *Vocabulary Lists*. Wellington: English Language Institute, Victoria University of Wellington.
- Nation, P. (1997). Bring today's vocabulary research in tomorrow's classroom. *Language classrooms of tomorrow: Issues and responses*. Jacobs (ed.). *Anthology Series, 38*, 170-182.
- Nation, P., & Coady, J. (1988). *Vocabulary and language teaching*. New York: Longman.
- Nation, P., Ming Tzu, & Karen Wang. (1999). Graded Readers and Vocabulary. *Reading in a Foreign Language, 12* (2), 355-380.
- Newport, E.L. (1999). Maturation constraints on language learning. *Cognitive Science, 4*(1), 11-28.
- Nobuyoshi, J., & Ellis, R. (1993). Focused communication tasks. *English Language Teaching Journal, 47*, 203 -210.
- Norris, J. M., & Ortega, L. (2001). Does type of instruction make a difference? Substantive findings from a meta-analytic review. *Language Learning, 2001, 51, supplement 1, 51*(supplement 1), 157-213.
- Office of Civil Rights. (2001). *Title VI prohibition against national origin discrimination as it affects persons with limited English proficiency*. Retrieved February 15, 2006, from <http://www.gov/ocr/lep/guide.html>.

- Ore, T.,E. (2006). Black and white language. *The social construction of difference and inequality* (3rd. Ed. ed., pp. 473-497)Mayfield Publishing.
- Oxford, R. L., & Scarcella, R. C. (1994). Second language vocabulary learning among adults: State of the art in vocabulary instruction. *System*, 1994, 22, 2, May, 22(2), 231-243.
- Paribakht, T. S., & Wesche, M. (1997). Vocabulary enhancement activities and reading for meaning in second language vocabulary acquisition In *Second language Vocabulary acquisition: A rationale for pedagogy*. James Coady and Huckin (eds). 174-200.
- Paribakht, T. S., & Wesche, M. (1999). Reading and "incidental" L2 vocabulary acquisition: An introspective study of lexical inferencing. *Studies in Second Language Acquisition*, 21(2), 195-224.
- Parry, K. (1993). The social construction of reading strategies: New directions for research. *Journal of Research in Reading*, Sept, 16(2), 148-158.
- Pinker, S. (1999). *Words and rules: The ingredients of language*. New York: Basic Books.
- Praninskas, J. (1972). *American university word list*. London: Longman. Quest.2.0 [computer software 1994: Melbourne: The Australian Council for Educational Research.]
- Qian, D. (1996). ESL vocabulary acquisition: Contextualization and decontextualization. *Canadian Modern Language Review*, V (53), 120-142.
- Qian, D. (1999). ESL Vocabulary acquisition” Contextualization and decontextualization. *Canadian Modern Language Review*. 53(1), 120-142.
- Qian, D., & Schedl, M. (2004). Evaluation of an in-depth vocabulary knowledge measure for assessing reading performance. *Language Testing*, Jan, 21(1), 28-52.
- Read, J. (1993). The development of a new measure of L2 vocabulary knowledge. *Language Testing*, 10(3), 355- 371.
- Read, J. (2000). *Assessing vocabulary*. Cambridge: Cambridge University Press.
- Richards, J.C. 1974. Word lists: problems and prospects. *RELC Journal* 5: 69-84.

- Robinson, P. (1996). Learning simple and complex second language rules under implicit, incidental, rule search and instructed condition. *Studies in Second Language Acquisition*, 18, 27 -68.
- Rosa, E., & O'Neil, M.D. (1999). Explicitness, intake, and the issue of awareness. *Studies in Second Language Acquisition*, 21(4), 511-556.
- Sanz, C. (2006). *Mind and context in adult second language acquisition*. Washington, D.C.: Georgetown University Press.
- Schacter, D.L., & Tulving, E. (Eds.). (1994). *Memory Systems 1994*. Cambridge, MA: MIT Press.
- Schmidt, R. (1993). Awareness and second language acquisition. *Annual Review of Applied Linguistics*, 13, 206-226.
- Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning* (Tech Rep.no. 9 ed., pp. 1-63). Honolulu: HI: University of Hawai'i at Manoa, Second Language Teaching and Curriculum Center.
- Schmidt, R. W. (1990). The role of consciousness in second language learning. *Applied Linguistics*. 11, 129-158.
- Schmitt, N. (1998). Measuring collocational knowledge: Key issues and an experimental assessment procedure. *ITL, Review of Applied Linguistics, 1998, 119-120, June, 119-120*(June), 27-47.
- Schmitt, N. (1998b). Tracking the incremental acquisition of second language vocabulary: A longitudinal study. *Language Learning, June, 48*(2), 281-317.
- Schmitt, N. (2000). *Vocabulary in language teaching*. New York: Cambridge U Press.
- Schmitt, N., & McCarthy, M. (eds). (1997). *Vocabulary, description and pedagogy*. Cambridge University Press,.
- Segalowitz, N. (2007). Access fluidity, attention control, and the acquisition of fluency in a second language. *Tesol Quarterly*, 41(1), 181-186.
- Shiotsu, T. & Weir, C.J. (2007). The relative significance of syntactic knowledge and vocabulary breadth in the prediction of reading comprehension test performance. *Language Testing*, 24(1), 99 -128.

- Sinclair, J., & Renouf, A. (1988). A lexical syllabus for language learning. In *Vocabulary and language teaching*, R. Carter and M. McCarthy (eds.), 140- 158. London: Longman.
- Singleton, D. M. (1999). *Exploring the second language mental lexicon*. Cambridge, New York: Cambridge University Press.
- Spada, N. (1997). Form focused instruction and second language acquisition: A view of classroom and laboratory research. *Language Teaching*, 30, 73-87.
- Stoller, F. L., & Grabe, W. (1997). A six-T's approach to content-based instruction. In M. A. Snow, & D. M. Brinton (Eds.), *The content-based classroom: Perspectives on integrating language and content* (pp. 78-94). White Plains, NY: Longman.
- Swain, M. (1990). Second language testing and second language acquisition: Is there a conflict with traditional psychometrics? *Georgetown University Round Table on Languages and Linguistics*.
- Swain, M., & Carroll, S. (1987). The immersion observation study. In B. Harley, P. Allen, J. Cummins & M. Swain (Eds.), *The development of bilingual proficiency final report : Classroom treatment* (Vol. 2, pp. 190-342). Toronto, Canada: Modern Language Centre, The Ontario Institute for Studies in Higher Education.
- Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. Gass & C. Madden (Eds.), *Input in second language Acquisition* (pp. 235-253), Rowley MA: Newbury House.
- Taube-Schiff, M., & Segalowitz, N. (2005). Within language attention control in second language processing. *Bilingualism: Language and Cognition*, 8, 195-206.
- Thomas, W.P., & Collier, V. (1997). *School Effectiveness for Language Minority Students*. Washington, DC: National Clearinghouse for Bilingual Education.
- Thorndike, E. L. & Lorge, I. (1944). *The teacher's word book of 30,000 words*. New York: Teachers' College, Columbia University.
- Tozcu, A., & Coady, J. (2004). Successful learning of frequent vocabulary through CALL also benefits reading comprehension and speed. *Computer Assisted Language Learning*, 2004, 17, 5, Dec, 17(5), 473-495.
- Tseng, W., Dornyei, Z., & Schmitt, N. (2006). A new approach to assessing strategic learning: The case of self-regulation in vocabulary acquisition. *Applied Linguistics*, 27(1), 78-102.

- Ullman, M. T. (2005). A cognitive neuroscience perspective on second language acquisition: The declarative/ procedural model. *Mind & Context in Adult Second Language Acquisition* (pp. 141-164). Washington, DC: Georgetown university press.
- Ure, J. (1971). Lexical density and register differentiation. In *Application of linguistics*, G. Perren and T. Trim (eds.), 443-452. Cambridge: Cambridge University Press.
- Van Hout, R. (1996). Statistical odds in language research. Keynote paper presented at the Sixth Annual Conference of the European Second Language Association (*EUROSLA 6*). Nijmegen.
- VanPatten, B. (1996). *Input processing and grammar instruction in second language acquisition*. NJ: Ablex: Norwood.
- VanPatten, B. (2004). *Processing instruction: Theory, research, and commentary*. Mahwah, NJ: Lawrence Erlbaum.
- VanPatten, B., & Oikkenon, S. (1996). Explanation versus structured input in processing instruction. *Studies in Second Language Acquisition*, 18(4), 495-510.
- Verhallen, M., & Schoonen, R. (1998). Lexical knowledge in L1 and L2 of third and fifth graders. *Applied Linguistics, Dec*, 19(4), 452-470.
- Verspoor, M., & Lowie, W. (2003). Making sense of polysemous words. *Language Learning, Sept*, 53(3), 547-586.
- Vidal, K. (2003). Academic listening: A source of vocabulary acquisition? *Applied Linguistics, Mar*, 24(1), 56-89.
- Waller, T. (1993). Characteristics of near native proficiency in writing. In Ringbom (ed.) *Near native proficiency in English* (p. 183- 293). Abo. Finland: English Department. Abo Akademi University.
- West, M. (1953). *A general service list of English words*. London: Longman, Green & Co.
- White, L. (1991). *Adverb placement in second language acquisition*. Amsterdam: John Benjamins.
- Wolter, B. (2001). Comparing the L1 and L2 mental lexicon: A depth of individual word knowledge model. *Studies in Second Language Acquisition*, 23(1), 41- 69.
- Xue Guoyi and I.S.P. Nation. 1984. A university word list. *Language Learning and Communication* 3: 215-229.

Zahar, R., Cobb, T., & Spada, N. (2001). Acquiring vocabulary through reading: Effects of frequency and contextual richness. *The Canadian Modern Language Review/La Revue canadienne des langues vivantes*, June, 57(4), 541-572.

Zimmerman, C. B. (1997). Do reading and interactive vocabulary instruction make a difference? an empirical study. *TESOL Quarterly*, spring, 31(1), 121-140.

Zimmerman, K. (2005). Newly placed versus continuing students: Comparing vocabulary size. *TESL Reporter*, Apr, 38(1), 52-60.