EDUCATIONAL BACKGROUND AS PREDICTOR OF LEXICAL RICHNESS AMONG LIBYAN AND SAUDI ARABIAN ESL STUDENTS

by

Sally J. Andrews

Bachelor of Science, University of Nebraska, 1997

Submitted to the Graduate Faculty of

Linguistics in partial fulfillment

of the requirements for the degree of

Master of Arts

University of Pittsburgh

2009

UNIVERSITY OF PITTSBURGH

ARTS AND SCIENCES

This thesis was presented

by

Sally J. Andrews

It was defended on

April, 17, 2009

and approved by

Dr. Dawn E. McCormick, Lecturer, Department of Linguistics

Dr. Gregory Mizera, Lecturer, Department of Linguistics

Thesis Director: Dr. Alan Juffs, Associate Professor, Department of Linguistics

EDUCATIONAL BACKGROUND AS PREDICTOR OF LEXICAL RICHNESS AMONG LIBYAN AND SAUDI ARABIAN ESL STUDENTS

Sally J. Andrews M.A

University of Pittsburgh, 2009

It has been acknowledged that having and using a varied vocabulary is tied to academic success. While most studies concerning vocabulary use and acquisition consider only a student's first language (L1), this study includes the educational and linguistic backgrounds from two groups that share an L1, Arabic. By examining the written texts of Libyan and Saudi Arabian students who come from very different educational and linguistic backgrounds, we can begin to better understand what influences vocabulary acquisition and use.

In the present study, it was hypothesized that, due to their exposure to English and Romance languages, the Libyan ESL students should use a richer vocabulary than the Saudi Arabian students. To gauge the students' lexical richness, various measures were employed; the Text/Token Ratio (TTR), the Guiraud Index, the Lexical Frequency Profiler (LFP). The students' scores from the vocabulary section of the Michigan Test of English Language Proficiency (MTELP) test were also considered. Libyan students scored significantly higher on

the MTELP test but had lower mean scores of lexical richness. Counter to the hypothesis, the data suggested that Saudi Arabian students used more low-frequency and academic words than their Libyan counterparts. It was suggested that motivation may be an important factor in learning and using vocabulary and the Saudi Arabian students, cognizant of not knowing the vocabulary, work harder at learning it.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

PREFACE

I dedicate this thesis to my father, my first and favorite professor.

1.0 INTRODUCTION

Many students enrolled in the English Language Institute (ELI) at the University of Pittsburgh hope to complete graduate or undergraduate studies in the United States. Many ELI students already have undergraduate and graduate degrees from their home countries and many are doctors, teachers, lawyers and engineers. They are literate in their first languages (L1s) and many are accustomed to writing at an academic level in their L1s. What many want to learn in the ELI is how to use academic English. As a result, the ELI, and Academic English Program, has made an intentional, concerted effort to teach English academic words to its students.

The ELI is divided into three, sometimes four, proficiency levels. Always offered are Levels 3, low-intermediate, 4, intermediate and 5, high-intermediate. If warranted, Level 2, the pre-intermediate level, is offered. All skills are offered each term: Grammar, Listening, Speaking, Reading and Writing. Across all skills, in all levels, use of academic English vocabulary is stressed. Students are presented a list of five vocabulary words per week for 10 weeks during a 13-week term. These words vary in frequency level according to proficiency level, meaning that the Level 3 students learn more common academic words than do the Level 5 students. By the end of the term, all students will have been exposed to and are expected to learn and use 50 academic words. Students are also exposed to other vocabulary not on the core vocabulary list, but that are present in texts in their Reading and Listening class texts.

The influence one's first language (L1) has on the acquisition of his or her second language (L2) has been studied and debated for years (Gass, 1996). The purpose of this study is to examine factors in addition to students' first languages (L1) that may affect their acquisition and use of English academic vocabulary in written form. Students in the ELI come from various countries, representing numerous L1s. Indeed, there are students who speak the same L1 but come from very different parts of the world and who may have very different social and educational backgrounds. By examining these groups, we may begin to better understand how all students acquire and use language at all proficiency levels and which factors may be influential.

For example, Arabic-speaking students from different parts of the world may come from different backgrounds, speaking Arabic as their L1 but come to an English as a Second Language (ESL) classroom with different life histories. Though they do share a common L1, they may represent different populations due to their different linguistic and educational backgrounds. In an attempt to observe influences that may transcend a speaker's L1, this study will examine the written vocabulary use of speakers of the same L1, Arabic, coming from different regions of the Arabic-Speaking World, Libya and Saudi Arabia.

2.0   INFLUENCES ON ACQUISITION

As has been previously stated, the influence one's L1 has on the acquisition of his or her L2 has been studied and debated for years (Gass, 1996). This influence, or transfer, is defined by Gass (p. 318) as "the use of prior linguistic information in a non-NL [native language] context." Transfer can be observed in various ways including speakers' accents and the errors they make (Mitchell & Myles, 1998). While the phenomenon is given different monikers such as "transfer," "mother tongue influence," "cross-linguistic influence" and "cross-linguistic generalization," the result of one's native language affecting L2 acquisition is the same. Assuming no allegiance to any specific theory, for the purpose of this study, the term "transfer" will be used.

During the 1950s, behavioral theorists recognized language transfer and viewed it as a factor that would either help or hinder learners, depending on what their L1 was and how similar it was to the language they were trying to learn. By the 1980s, it was largely accepted that transfer occurred, however, scholars began to think that it was selective and that some L1 "properties transfer and some do not" (Mitchell & Myles, 1998, p. 50). Today, it is widely accepted that transfer "play[s] an important role in second language learning." (p.19) However, *to what extent* one's L1 influences L2 acquisition and *how much* of one's L1 is transferred continue to be unresolved questions.

One important change that has occurred in the debate about transfer is that of viewing the speaker as agent in the transfer. Transfer is presently viewed as a "cognitive mechanism that underlies L2 acquisition" (Gass, 1996, p. 320) and that there are variables that may dictate what the speaker decides to transfer. Among these variables are social influences, other languages in the speaker's speech repertoire and how successful the speaker is with the target language (p. 329).

Odlin (2005, p.5) suggests three aspects of transfer that should be considered: linguistic relativity, conceptual transfer and meaning transfer. Linguistic relativity refers to the "influence of language on thought," which can affect a student's comprehension or production. Conceptual transfer is more closely a result of linguistic relativity than is meaning transfer. Meaning transfer represents semantic and pragmatic, or meaning, transfer whereas conceptual transfer represents thought transfer. One example of meaning transfer can be observed in mapping word form to meaning. This is the process of a learner assigning semantic meaning to the morphological form of a word (Jiang, 2002). When "mapping," a learner associates the form of a new L2 word with the semantic concept they already have in the L1. Certainly, the learner's L1 would influence their notion of the word in the L2 and may or may not provide an accurate translation.

Lexical knowledge and use are gauged in different ways, with many measures assuming a continuum of knowledge. Richards (1976) was among the first to suggest the notion that word knowledge often occurs on different levels. He provides seven ways one can "know" a word: knowing collocations of the word, knowing sociolinguistic appropriateness of the word, knowing the grammatical properties of the word, knowing the possible derivations of a word, knowing which other words are associated with the word and knowing the semantics of the word.

Levelt also proposes that different words will be learned and known on different levels and are mentally represented differently for the learner depending on how they know the word (Juffs, in press, p. 2). Levelt suggests two levels of word knowledge: *lemma*, including knowledge of meaning and syntax and *lexeme*, including knowledge of morphology and form.

Schmitt (1995, p. 87) states that "vocabulary acquisition…is incremental" and is a process that is dependent on exposure to the new word. When first exposed to a new word, a student is likely to learn just one of its meanings and a basic knowledge of its form. With repeated exposure to the same word comes more familiarity and a deeper understanding of the word's meaning(s) and form(s).

Vermeer (2001, p. 220) agrees that lexical knowledge can range from " '…doesn't that have something to do with…' [to a] precise definition… ." Henriksen (1999) supports the concept of a vocabulary knowledge continuum, with simple word recognition at the earliest, most basic end of the continuum, ending with accurate receptive and productive abilities at the most complex, highest level of vocabulary knowledge. She proposes that, when measuring vocabulary knowledge, there are three dimensions that represent the vocabulary knowledge continuum which should be accounted for (pp. 304-305): 1) partial-precise knowledge, which includes translation tasks and word-recognition tasks; 2) depth of knowledge which includes word association tasks and 3) receptive-productive knowledge which measures vocabulary use both in comprehension and production. Henriksen states that the first and second dimensions measure lexical meaning and their relations to other lexical items while the third dimension speaks to "levels of access or use ability (p. 314)." Laufer, Elder, Hill & Congdon. (2004, p. 203) agree that using a word correctly in "free production reflects the highest level of lexical knowledge."

2.1   IMPORTANCE OF VOCABULARY IN AN ESL CLASSROOM

The importance of ESL students learning and using a varied academic vocabulary has recently been given greater importance (Henriksen, 1999; Kojic-Sabo & Lightbown, 1999; Laufer, *et. al*, 2004; Vermeer, 2001). Words carry meaning (Laufer *et al.*, 2004; Vermeer, 2001) and signify "the label of a notion" (Vermeer, 2001, p. 220). Tidball and Treffers-Daller (in Daller *et al.*, 2007, p. 134) agree that that "vocabulary is a key component of language" and state that vocabulary use is important not just in everyday life but in predicting success in school. According to Corson (1997, p. 671), ESL students having command of English academic vocabulary "is essential to academic success." Knowledge of vocabulary is tied to students' general language development and academic achievement (Cameron, 2002; Laufer *et al.*, 2004; Laufer and Nation, 1999) and is an integral element in proficiency in a second language (L2) (Schmitt, 1999). Appropriate use of vocabulary is further seen as a predictor of how well students will perform both within and outside of the academic world, across all academic skills (Khuwaileh and Al Shoumali, 2000; Read 1988;) and, specifically, in writing (Engber, 1995). Corson (1997, p. 671) notes that possessing and using an academic English vocabulary is "essential to academic success." Laufer and Nation (1995, p. 308) agree that well-written compositions make "effective use of …a well-used rich vocabulary."

To be successful at the university level, students need to be good writers and part of being considered a good writer is to use a varied, academic vocabulary correctly. Academic vocabulary is different from everyday lexicon (Read, 1988) and knowing this specialized vocabulary will serve them well in their university studies. Certainly, in academic settings, students will be expected to write at an academic level. Even to become a part of an academic community will require writing as part of an entrance exam (Cameron, 2002; Laufer & Nation, 1995). Hyland (2003) cites lack of vocabulary as a common frustration among ESL students. Many of these students, he contends, while intelligent people and good writers in their L1, simply do not have the necessary vocabulary to express their thoughts in English. Corson (1997) states that teachers and academics view vocabulary diversity as an important factor in good writing.

2.2   FACTORS INFLUENCING VOCABULARY ACQUISITION

In addition to general L1 transfer, the influence of a learner's L1 on the acquisition of L2 vocabulary has also long been debated and documented (Henriksen, 1999; Read, 2004) and of the numerous examples that have just been provided, meaning transfer may be the most applicable in studying vocabulary acquisition. Schmitt (1995) suggests that possibly all facets of lexical knowledge that learners have about a word in their L1 can transfer to the L2 word, whether accurate or not.

There are various aspects of students' backgrounds beyond one's L1 that may also influence their L2 vocabulary acquisition. For example, Reid (1987) suggests that ESL students

coming from different countries have their own proclivity for learning style and whether or not those styles are incorporated in a classroom may affect their success. Dewaele (2005) found that students' attitude toward the target language has an effect on their success. Kojic-Sabo and Lightbown (1999) found that the learning strategies students employ affect how successfully they are able to use their L2, specifically vocabulary. According to Pulido (2004), students learn more vocabulary when reading a text that is culturally familiar to them.

Corson (1997) provides numerous factors that influence students' acquisition and use of English Academic vocabulary. He points out that most academic words in English are of Graeco-Latin etymology and that students' linguistic and social backgrounds, culture and class all influence their abilities to acquire and use such words. According to Corson, nearly all of the 570 words on the University Word List (UWL), also referred to as the Academic Word List (AWL), are Latinate. Therefore, he claims, students who come from more literary-influenced backgrounds, or who speak Latinate languages as their L1, have an advantage when learning and using these words. For Corson, there exists a direct connection between how prepared one is to learn academic vocabulary and how they indeed acquire and use it.

Tidball & Treffers-Daller (2008) agree that students' L1s and their similarity to the target language can affect how easily students learn and use vocabulary. They contend that rare words that are cognates are easier, even preferable, for students to use than higher-frequency words that are not cognates. Again, for students coming from a Latinate L1 background, AWL words should be easier for them to learn and use due to their cognate status. According to Ranson & Carlisle (1996), English and French have been borrowing each other's words since 1066 and there exist around 5,000 French words used in English and approximately 3,000 English words used in French, providing a French-speaker many cognates when learning English. Many of

these words originally were true cognates though some meanings have changed, creating false cognates that can cause confusion. Ranson & Carlisle argue that true cognates are benefits for a language learner but that false cognates can be a hindrance.

2.3 VOCABULARY USE IN WRITING

Related to success in academic writing, a rich vocabulary is also essential in writing. Engber (1995), Gede Astika (1993) and Santos (1988) all found a direct link between the number of different vocabulary words a student used in a sample essay and how highly the essay was graded. Engber examined timed essays written by ESL students and graders' opinions of them, finding that the essays in which students had included a more varied vocabulary and used the words correctly received higher scores than those who did not. Gede Astika asked graders to use the ESL Composition Profile to evaluate ESL students' writings and found vocabulary to be the strongest predictor of their writing proficiency score. Santos found that "mainstream" professors of humanities and physical science were not typically very tolerant with ESL students' writing errors and consistently gave them lower grades than their native-speaking classmates. Santos found misuse of vocabulary to be considered by the professors as the more serious error when compared with syntax.

As possessing a varied vocabulary that is appropriate for academic settings and the ability to use that vocabulary effectively in academic writing are vital skills that ESL students must take with them to mainstream classrooms, it seems appropriate to examine vocabulary use in ESL student writings. If preparing ESL students for non-ESL academic settings is a goal of the ELI,

gauging how well students know and use vocabulary seems to be a pertinent endeavor. As ESL teachers often base many expectations on students' L1, it seems appropriate to examine what additional factors may be present and influencing students' L2 acquisition. Further, it seems appropriate to analyze vocabulary use in written production. Nation (in Daller *et al.*, 2007, p. 42) suggests that analyzing student writing samples is ideal as they do not know it will be analyzed, thus, provide a natural sample to work with.

Testing vocabulary knowledge and use has long been debated and is still being perfected. Schmitt (1995, p. 87) argues that one problem with most lexical tests is that they assume a "*know/don't know* view of vocabulary," not allowing for any levels of lexical knowledge other than knowing or not knowing a word. Henriksen (1999) advises that one problem in measuring lexical development is that few studies are longitudinal. Schmitt (1999) suggests that lack of any universal standardized ESL vocabulary test is a problem. Laufer and Nation (1995) present a list of commonly used measures including: lexical originality, lexical density, lexical sophistication and lexical variation. They deem each of these measures as lacking and propose use of their own Lexical Frequency Profiler (LFP). The LFP ranks words according to frequency-level, including the 1,000 highest-frequency words, the 2,000 most frequent words and the University Word List, containing academic vocabulary. The remaining words are considered "off-list." The LFP attempts to gauge "the percentage of words a learner uses at different vocabulary frequency levels in her writing" (p. 311).

A common way to measure a student's language ability and compare it to another student's ability is to analyze his or her *lexical richness* (Daller *et al.*, 2007, p. 13). This measure is comprised of two measures: *lexical diversity*, the depth of one's vocabulary knowledge, that is, how many different words a person knows; and *lexical sophistication*, or, the breadth of one's

vocabulary knowledge, or, how many low-frequency words a person knows. By measuring lexical richness, Laufer and Nation (1995, p. 307), suggest that we can know "the degree to which a writer is using varied [depth] and large [breadth] vocabulary." Further, lexical richness looks at "the relationship between vocabulary knowledge and vocabulary use."

There are numerous quantitative measures for analyzing lexical richness. According to Daller *et al*. (2003), the best known of these is the type-token ratio (henceforth, TTR) which is a simple equation of total different words used/total words used and is better suited for analyzing shorter texts. In personal correspondence with Daller (H. Daller, personal communication, November, 2008), he defined "shorter" as fewer than 250 tokens. The TTR has been criticized for not accounting for use of *rare* words, simply *total* words and consequently, does not give accurate insight into a student's lexical richness. Further, it has been criticized for not providing accurate statistics when analyzing longer texts. That is, when writing on one topic, writers are likely to use the same terminology throughout the text, and the longer the text is, the more likely it is that the same terminology will be repeated. In an attempt to account for longer texts, the Guiraud Index was introduced. The Guiraud Index changed the denominator in the equation to be the *square root* of total tokens used in an attempt to compensate for text length, making it more appropriate for calculating lexical richness for either a long or short text (Daller, Van Hout, and Treffers-Daller (2003). According to Klatter-Folmer, van Hout, Kolen, & Verhoeven (2006, p. 242), adding the square root is necessary because it lessens the effect of the number of tokens. This is an issue as the number of types increases more slowly than the number of tokens. As was stated earlier, when writing a long text, writers will have a large number of words, or, tokens. However, writers are likely to repeat the same vocabulary, decreasing the number of different words used, or, types. Including a square root in the denominator helps to account for this and

allows texts of different lengths to be considered similarly. Daller *et al*. (2003, p. 200) suggest that, while neither measure is superior as they are closely related, the Guiraud Index "seems to be the most stable for language learner data." Table 1 presents the different measures and their corresponding formulas.

Table 1. Lexical Richness Measures and Formulas

Measure	Formula
Type Token Ratio	Types/Tokens
Guiraud Index	Types/$\sqrt{}$Tokens

If Corson, Tidball and Treffers-Daller are correct, it should be easier for the Libyan students than the Saudi Arabian students in the English Language Institute to use lower-frequency words and the Academic Word List due to their exposure to two Latinate languages, French and Italian. If Corson is correct and there does exist a link between how prepared one is to learn academic vocabulary and how they indeed acquire and use it, Libyan students who have studied at the university level in English should be better prepared to learn academic vocabulary and are likely already using it. That they may have studied at the university level in English further suggests that these words should be easier for them than their Saudi Arabian counterparts as they may not be *new* words. They have likely encountered them in their coursework, in English, in Libya.

The following research question is therefore proposed for this thesis:

When matched for proficiency level, do Libyan ESL students use a larger and/or more varied vocabulary when writing than Saudi Arabian ESL students?

As shall be presented in the following section, Libyan students have some knowledge of two Latinate languages, French and Italian, therefore, they should be more familiar with academic words and it should be less challenging for them to produce them in free production form. A further hypothesis will be that higher-level students (Levels 4-5) from both countries will have a higher mean lexical richness. One would expect students to produce words freely that they are most familiar with. If, as Laufer suggests, free production is the highest form of vocabulary knowledge, students' use of low-frequency words in their writing will speak to their depth of knowledge while the total number of words they use will speak to their breadth of knowledge. The LFP rankings of 1,000, 2,000 and the Academic Word List (AWL) words will be used to gauge breadth of knowledge while the TTR and Guiraud Index will be used to gauge depth of knowledge.

2.3.1   Lexical Differences in the Classroom

Using TTR and the Guiraud Index to measure lexical richness may prove a valid starting point for analyzing how differences between Libyan and Saudi Arabian students may manifest themselves in ESL classrooms. ESL teachers' expectations of students are often founded on the students' L1s. They use this knowledge in numerous ways, including error analysis and teacher feedback. Teachers may not be aware of cultural, educational or linguistic backgrounds of

students from the same L1 group and may not be prepared for possible differences among them and, ultimately to best help them in the classroom. If it can be suggested that Libyan and Saudi Arabian indeed acquire and use vocabulary differently, this could help teachers to fine-tune their expectations and understand that there exist differences that supersede or, at the very least compete with their L1.

3.0   LIBYA AND SAUDI ARABIA COUNTRY STUDIES

Both Libyan and Saudi Arabian students come from diglossic speech communities. Ferguson defines diglossia as "two varieties of a language exist[ing] side by side…"(in Bratt Paulston & Tucker 2003, p. 345), which can be applied to both Saudi Arabian and Libyan speech communities. In diglossic situations, there is a high language and a low language, both of which serve separate functions. The "high" (H) language is seen as the more prestigious, superior language and is the language of literature. The "low" (L) language is one's first language whereas the high language is learned in school. Ferguson (pp. 34-349) presents some qualities of H and L languages stating that the H language must possess a sense of prestige and is seen as "more beautiful, more logical…," and that the superiority of H can be associated with religion. The H language is also seen as "…better able to express important thoughts." Another aspect of diglossia is that the H languages have a "sizeable body of written literature…which is held in high esteem." Indeed, Ferguson states that Literary and Spoken Arabic "clearly belong" in the category of diglossia, with Literary Arabic as the high language and spoken Arabic as the low language. Fishman (in Bratt Paulston & Tucker 2003, pp. 360-361) provides parts of the Arab world as an example of diglossia with bilingualism stating that most members of the speech community speak classical and vernacular Arabic as well as a Western language, typically French or English. For a community to be considered diglossic with bilingualism, Fishman

suggests that members of the community must have a "range of *compartmentalized* roles as well as *access* to these roles."

The examples of Saudi Arabia and Libya fit Ferguson's and Fishman's definitions of diglossia and diglossia with bilingualism, respectively. As Saudi Arabian students have high and low varieties of Arabic as part of their speech repertoires, they can be considered as coming from diglossic speech communities. Libyan students, on the other hand, having two varieties of Arabic as well as French, Italian or English as part of their speech repertoires, can be considered as coming from speech communities that are diglossic with bi- or multilingualism. They speak the high and low varieties of Arabic (diglossia) and (an)other language(s) not related to Arabic, creating a bi- or multilingual setting.

Both populations come from a region of the world where modern universities are a relatively new phenomenon. Alghafis (1992, p. 19) argues that this is due to "modern universities [being] a Western institution." The creation of modern universities began in the Arab World in the beginning of the 20th century, the first being Cairo University, founded in 1908. According to Alghafis, out of the more than 1500 universities in the developing world, only 200 are in the Arab World.

Though both populations speak Arabic as their L1, the Libyan population comes from a region that was not historically Arab but Berber; was an Italian, British and French colony; underwent the educational policy of Arabization and where diglossia with bilingualism is common. While Saudi Arabia, like Libya, is a diglossic speech community, it lacks the colonial history of Libya and is not bilingual. Libyan students may come from Arabized schools that maintain a colonial framework whereas Saudi Arabian students come from schools that were originally Arab. Crucially, many Libyan students attend universities where the medium of

16

instruction is English, thus, their educational background of studying and using Academic English may provide an advantage over the Saudi Arabian students. Simply, Libyans have more languages as part of their speech repertoires.

Examining these different groups of students may inform how educational, linguistic and cultural backgrounds affect one's second language (L2) acquisition ability and, ultimately, if they can be considered different populations. Further, this may aid in understanding how strongly educational background, in addition to L1, may predict L2 vocabulary knowledge and use. While it has been established that Libyan and Saudi Arabian students come from different educational and linguistic backgrounds, what we do not know is if they use academic words in English differently. Though they share an L1, owing to current Libyan university students' previous study *of* and *in* English and Libya's historic Arabic/Italian/French multilingualism, one would expect to observe differences between Libyan and Saudi Arabian students' vocabulary use, suggesting that they *do* come from different populations. Specifically, one would expect the Libyan population to have a higher mean of less-frequently used vocabulary words. Furthermore, one would expect the higher level students (Levels 4-5), regardless of L1, to have a higher mean lexical richness, regardless of background. Higher level students who are nearing the end of their studies at the ELI ought to have greater command of vocabulary knowledge and use.

In an attempt to examine which factors may influence a student's lexical use, this study will make use of qualitative historic and educational information about Libya and Saudi Arabia, demographic information about the participants and quantitative lexical data taken from student writing samples. Included in this study will be a history of the two countries that may have influenced its citizens' linguistic repertoires, thus influencing their L2 acquisition aptitude and,

ultimately, their vocabulary use. Further, an analysis of the students' histories of studying English as a Foreign Language (EFL), as reported by the students themselves, will be incorporated. Finally, a quantitative examination of the students' vocabulary usage will be included with the goal of determining if there exist factors beyond a student's L1 that influence his or her vocabulary use.

3.1   LIBYA

According to The World Almanac (2003), Libya is located in North Africa, bordering Algeria, Tunisia, Niger, Chad, Sudan and Egypt. It measures 679,000 square miles and 92% of the country is covered by desert or semi-desert areas and has 1% arable land. Of its 5,368,585 citizens, 1,776,000 live in the capital, Tripoli. 34% of the population is under the age of 15 and 3.9% are over 65. Libya's principal industries include oil, food processing, textiles, handicrafts and cement.

To understand its current educational system, a brief history of Libya is presented as it has had and continues to have numerous effects on education. Libya has a diverse ethnic population. According to El Aissati (1993), Berber existence in North Africa dates back to 2000 BC. While most Libyans are not natively Arab but are descendents of Berber tribes (Moroney, 1989), there has been an Arab presence in North Africa since the 6th century (Zartman & Habeeb, 1993, p. 4). Before being colonized by the Italians, Libyans spoke vernacular Arabic and Berber while under Ottoman rule. Presently, most Berbers in Libya live in mountain villages in the south and west of the country, isolated from the Arabic-speaking speech

community (Rake, 1999) and retain their indigenous language. Libya is also a former European colony, a fact that continues to influence Libyan schools and universities. According to Daun, Arjmand and Walford (in Daun & Walford, 2004), colonial powers in Africa implemented school systems like those in their home countries, consequently, Libyan schools are based on British, French and Italian school systems.

According to Comrie (1990), Berber and Arabic are both Afroasiatic languages though Arabic can also be classified as Semitic. Berber, unlike Arabic, uses a gender distinction, affixing "-t" to the end of feminine words. Classical Arabic and Berber both use Verb-Subject-Object word order. However, Colloquial and Modern Standard Arabic use Subject-Verb-Object word order. Both have written alphabets, Berber's *tifinagh* is written from left to right while Arabic cursive is written from right to left.

Indeed, Libya has a long history of colonization and of other countries making decisions for it. The Ottomans colonized Libya from 1517-1551 and again from 1835-1911 (Vandewalle 2006, pp. 16-17). During this time, three distinct provinces were created: Tripolitania, in the northwest, which was more North African-identifying; Cyrenaica, in the northeast, which was more Middle Eastern-identifying and Fazzan, in the south, an isolated area in the Sahara that was more Sub-Saharan-identifying (Vandewalle 2006, p.9). Italy colonized Libya and was present from 1911-1943 (Pennell in Joffe, 1993, p. 204). Finally, when Italy no longer had the budget to afford its colonization of Libya, the United Kingdom took control of Tripolitania and Cyrenaica while France was given control of Fazzan. By the time Qadhafi took power in 1969, Libya continued to feel very reliant on and connected to the West as there were both American and British military bases, the oil trade's ties to the West and the United States' providing Libya with substantial foreign aid (Vandewalle, 2006).

Certainly, Italian colonization deeply affected Libyans' education, economic life and infrastructure as well as its national psyche. Initially, the Italian colonists were "liberal" and were willing to collaborate with the Libyans to create a workable situation for both parties (Ahmida, 1994). Italy saw Libya as little more than a settlement for its growing population and simply took over their land, farms and livestock (Vandewalle, 2006). Italy wanted to colonize Libya in an attempt to compete with the British and French colonists and thought it would help Italy grow economically (Ahmida, 1994). Between 1914 and 1929, around 180,000 acres of Libyan land was taken by the Italians (Vandewall, 2006, p.32). Local governments in the three provinces were destroyed by the Italian colonists, which created an even stronger sense of regional identity (Ahmida, 2005, p. 74), rather than identifying with the state, or country. The Italians kept education to a minimum and "disrupted all political patterns and networks." Indeed, Libyans were excluded "wherever and whenever" they could be (Vandewall, 2006, pp. 33-34). Many Libyans were forced into exile in other North African countries, Syria and Chad.

The situation only worsened when Italian fascism took over in 1922 (Ahmida, 2005, p. 37). While the "liberal" colonizers wanted to "Italianize" the Libyans, the fascists saw themselves as racially superior. The fascists disallowed Libyans from speaking and learning Italian, deeming them unworthy of it and, stopped teaching it in the schools and using it as the medium of instruction, replacing it with vernacular Libyan Arabic. Despite its being "banned," Italian remained a part of Libyans' speech repertoires until Arabization. Further to restrictions on language, the fascist colonizers banned Libyans from going to school beyond sixth grade. After sixth grade, they were allowed only to work as laborers, earning very little money to help support their families. Fascist Italy stopped collaborating entirely with the Libyans, ignored any rights they had previously granted them and began their campaign of racial supremacy and

genocide. Italian colonists built concentration camps that were active between 1929 and 1934 (Ahmida, 2005, p. 43) where it is likely that somewhere between 80,000 to 100,000 Libyans were killed. Italian fascist leader Benito Mussolini always claimed that his colonization was not imperialist like the French, and that he simply needed an "outpost for its [Italy's] surplus population" (Vandewall, 2006, p. 37). In an attempt at solidarity with the Libyans, he dubbed himself "the protector of Islam [in Libya] to symbolize the confluence of Italian and Libyan interests." However, his actions belied this rosy ideal.

Libya was declared an independent country by the United Nations after World War II in 1951 (Zartman & Habeeb, 1993, p. 16). It was created as a federal constitutional monarchy with three regional states (Tripolitania, Cyrenaica and Fazzan), three capitals (Tripoli, Benghazi and Sebha) and a federal government (Ahmida, 2005, p. 77; Vandewalle, 2006, p. 48). King Idris was put in power on December 24, 1951, in an attempt to unify the kingdom. Muammar Qadhafi came to power in 1969, overthrowing King Idris' monarchy (Ahmida, 2005, p. 68). What Qadhafi wanted for post-colonial Libya was a "Jamahiriyya," or, "state of the masses (Ahmida, 2005, p. 72)." Qadhafi changed the name from "Kingdom of Libya" to "The Libyan Arab Popular and Socialist Jamahiriyya" (p. 77).

Qadhafi's government has certainly benefited education in Libya, which has been largely financed by oil revenue. In 1951, when Libya was granted independence, 94% of the population was illiterate (Vandewalle, 2006, p. 42). Due to free and compulsory education Libya was able to finance, those numbers are now much lower. In 1999, it was estimated that only 3% of the population, ages 15-24, are illiterate (El-Hawat in Zia, 2006, p. 215).

Elementary school in Libya consists of six years, followed by three years of junior high and three years of high school (Chapin Metz, 1987; El-Hawat, 2006). The secondary school

system is divided into two specialties, Arts and Sciences, comprising six areas of specialization. Libyan school officials view education as "the path to human and technological development and progress" (El-Hawat, 2006, p. 207) and they are implementing changes to keep with the modernization and globalization that is part of modern Libyan society. The creation of the two types of secondary schools is one example of this, as this new system was started in 2005.

As will be discussed in the following section, Saudi Arabian education places a large emphasis on the teaching of Islam in the schools. This is one area where the two countries differ. In Libya's "Goals of Education" as defined by the 1971 Law of Education (El-Hawat, 2006, p. 208), one of the fifteen mentions Islam and one makes mention of the Koran. The remaining goals speak to technical and vocational skills, specialization, production and development.

As has previously been stated, in Africa, higher education is "an artifact of colonial policies (Teferra and Altbach, 2004, p. 23)." Libyan universities and schools were influenced by European colonialism and continue to follow the European model. The first Libyan university was established in Benghazi in 1955 (Chapin Metz, 1987) and there are presently nine universities and seven higher learning institutes including training and vocational schools (Reza Arabsheibani & Manfor, 2001). As of 2003, there were over 140,000 students enrolled in Libyan universities (Teferra and Altbach, p. 25). As of 2002, there were nearly 5,000 students at the Masters level, 49 at the Doctoral level and 580 enrolled in medical school (El-Hawat, 2006, p. 213). In the same year, there were 1,501 Libyan students studying for these degrees abroad.

Presently, Arabic is the official language of Libya, while French and English are widely spoken (Moroney, 1989). According to Nelson (1979), English-speaking telephone operators are always available and English is the language of business. There are radio programs which are broadcast in English as well as an English-language newspaper, *The Mediterranean News.*

During colonization, Italian was the official language used in schools after elementary school (Reza Arabsheibani & Manfor, 2001). Presently, English and Arabic are taught in the schools and English is the medium of instruction for university-level science and technology classes and all medical schools. The World Almanac (2003) lists Arabic, Italian and English and Libya's principal languages.

Though one cannot ignore the possible damage colonization and colonial schools may have on a country and its people, it may have prepared some Libyan students to be more successful in learning English. Schools and universities in the United States are very similar to those in Europe, a framework that Libyans have historically used and continue to use. Further, that they have familiarity with Latinate Romance languages, French and Italian, and receive university instruction in English may give them an advantage in learning and using Latinate-based English vocabulary.

3.2 SAUDI ARABIA

According to The World Almanac (2003), Saudi Arabia is located on the Arabian Peninsula in the Middle East, bordering Jordan, Iraq, Qatar, the United Arab Emirates, Oman and Yemen. It measures 830,000 square miles and has a population of 25,513,330. It has three principal cities, Riyadh, the capital, with a population of 4,761,000; Jeddah, with a population of 3,192,000 and the holy city of Mecca, whose population is 1,335,000. 42.5% of the population is under the age of 15 while 2.7% are over 65. Saudi Arabia's main industry is oil.

Unlike Libya's long history of colonization, Saudi Arabia was "never completely ruled by any external force (Bowen, 2008, p. 17)." Unlike Libya with its Berber population, Saudi Arabia has always been an Arab population, with Arabic as its indigenous language (Alghafis, 1992; Bowen, 2008). Due to oil revenues, Saudi Arabia has grown economically but has not modernized (Daun, Arjmand & Walford in Daun and Walford, 2004). Many Saudi Arabians view modernization and globalization as a threat to Islam and Islamic tradition. According to Bowen (2008), Saudi Arabia is governed by an absolute monarchy whose King is advised by a group of very conservative, fundamentalist Muslims within the royal family. The government has no written constitution, legislature or judicial system, rather, is governed by the Koran and the King's interpretation of it.

The importance of Islam in Saudi Arabia cannot be overstated. It is the only religion legally allowed to be practiced in the country (Bowen, 2008) and it is illegal for Saudi citizens to convert to another religion and non-Muslim clergy members are not allowed entry into the country. Furthermore, the country plays a major role in the Islamic faith due to the presence of the holy cities of Mecca and Medina (Alghafis, 1992; Bowen, 2008). According to Bowen, 90 percent of Saudi Arabians are Sunni while 10 percent are Shia. Almost all Saudi Arabians follow Wahhabi Islam, a very strict, conservative branch of the religion. This religious importance affects education, as will be discussed below.

The first schools were established in Saudi Arabia in the 1930's though schooling was not made compulsory until 1954 (Bowen, 2008, p. 12). It was not until 1960 that girls were required to attend school. According to the Saudi Arabian Cultural Mission in the United States of America, p. 12, *e*ducation is presently compulsory in Saudi Arabia through elementary school though is free to all citizens through high school. Increasingly more government funding has

been designated for education. In 1975, $1 billion was spent on education while in 1995, $34.8 billion was budgeted for education. Saudi Arabia presently has a very low illiteracy rate among younger people. In 1950 (Shaw, in Griffin, 2006), the illiteracy rate was over 90% but is now around 20%, which is primarily comprised of older citizens. According to Shaw, most of the older generation has had only an elementary education.

The Saudi Arabian academic calendar is comprised two, fourteen-week semesters followed by two weeks of testing. Students at every level are required to pass a standardized test before they can continue to the next level. If a student fails one subject on the exam twice, they must repeat the entire level. Students must pass 'completion exams' before continuing to the intermediate (junior high) and secondary (high school) levels.

Important characteristics of Saudi Arabian education are 1) it is free and government-supported; 2) that there are separate male and female schools; 3) presence of Islamic studies at all levels, including university, are incorporated (Saudi Arabian Cultural Mission in the United States of America). According to Alghafis (1992, p. 3), "[the] aims of education in Saudi Arabia remain within traditional Islamic paradigms." Indeed, of the 17 "General Principles of Education" and the 10 "Objectives of Educational Policy" as defined by the Supreme Commission on Educational Policies (Saudi Arabian Cultural Mission in the United States of America, pp. 6-9), all make mention of "God," "Mohammed," "Islam" or "Muslims." According to Prokop (2003, p. 79), the educational objectives of Saudi Arabia "stress the importance of creating a sense of loyalty and obedience" to Islam. The school curriculum includes Islamic Studies for nine classes per week at the elementary level (grades 1-6), eight per week at the junior high level (grades 7-10), four per week for the first two years of high school (grades 9-11) and three per week for the final year of high school (grade 12). Students are

expected to memorize Koranic texts as well as to understand and interpret Islamic tradition and apply those traditions to modern life.

Shaw argues that among the problems facing education in Saudi Arabia are its reliance on standardized testing, lack of value of critical thinking or asking of questions. Further, he states that there is a general lack of interest in school as most of the younger generation plans to get jobs in the private sector, working for oil companies. Consequently, there is a high dropout rate after elementary school. Surely, that education is compulsory only through elementary compounds this problem. Prokop (2003, p. 80) agrees that there is an emphasis on rote memorization and repetition in the schools and that "passivity, dependence…respect for authority and an unquestioning attitude" are commonplace in Saudi Arabian schools and universities. Further, Prokop contends that there is little value placed on debate or on analytical and creative thinking. Prokop also concurs that most young people plan on working for an oil company and will need to speak English to do so.

As of 2000, there were almost 90 post-secondary institutions in Saudi Arabia, the first of which, King Saud University, was opened in 1957 (Bowen, 2008, p.12). There are presently seven universities and 11 girls colleges (Saudi Arabian Cultural Mission in the United States of America, p. 71). Of those seven universities, three are devoted to religious studies (Prokop, 2003, p. 79). In 1990, there were 126,536 students enrolled in higher education (Saudi Arabian Cultural Mission in the United States of America, p. 70).

Shaw again cites problems with the university system. Among the problems cited are that there are not enough professors with PhDs to teach and do research. Furthermore, Shaw and Alghafis agree that there is not a focus on research. Shaw states that most university professors are expected to teach undergraduate students, not to do research or to develop advanced degree

programs. According to Alghafis (1992, p. 20), "the concept of research has no significant place…" in Middle Eastern universities and cites lack professionalism and of professional scientists and two causes. As a result, many Saudi Arabian students study in the United States or the United Kingdom, particularly to complete a masters or doctoral degree. Degrees obtained abroad are often financed by the government and are seen as more prestigious than those from Saudi universities (Bowen, 2008). Indeed, it is easier for these students to find jobs in the private sector as fluency in English is often a requirement (Prokop, 2003).

3.3   ISSUES AFFECTING ARABIC-SPEAKING ESL STUDENTS

3.3.1   Cross-Linguistic Transfer

As was previously stated, Arabic-speaking ESL students come from diglossic speech communities, speaking colloquial Arabic as their first language and studying Modern Standard Arabic (MSA) as a second language (Mahmoud, 2000; Thompson and Ružić, 1983). Mahmoud (2000, p. 131) studied written compositions of 24 Sudanese Arabic-speaking EFL students to determine which version of Arabic "learners transfer from in free writing." He found 20% of their written errors to be traced to MSA (L2) and 37% were transferred from the students' non-standard colloquial dialect (L1) while *both* MSA and the non-standard dialect were found to influence 43% of their errors. This finding questions Scott & Tucker's (1974) hypothesis that Arabic-speakers transfer from non-standard dialects when speaking, but from MSA when writing, finding most students' written errors to be a result of both MSA and non-standard

dialect. While their colloquial dialects may differ, ESL teachers expect certain patterns of acquisition and errors from these speakers of similar first languages and identical second languages.

Khuwaileh & Al Shoumali (2000) studied the writings, both in English and Arabic, of 150 Jordanian university students. They found that the students tended to translate their thoughts from Arabic into English often creating negative transfer of rhetorical structure. Khuwaileh and Al Shoumali suggest that this is problematic as writing styles are very different in the two languages. For example, they state that Arabic writers make the same point from different viewpoints numerous times and, by English-speaking standards, have problems in cohesion and coherence in their writing. Furthermore, they found that students who were not good writers in Arabic tended not to be good writers in English. Khuwaileh & Al Shoumali (2000, p. 175) suggest that while transfer of L1 writing skills and use of different writing styles are not specific to Arabic-speaking EFL students, their writing errors "result in serious confusion in the eyes of native speakers of English."

3.3.2   Orthographic Challenges

Compounding writing aptitude and differing styles, Arabic-speakers often have difficulty with spelling English words, largely owing to the fact that only long vowels are written in Arabic (Thompson & Ružić, 1983). Making this more difficult for them may be the fact that English is inconsistent in representing vowels at the orthography level (Fender, 2003, p. 292). When faced with learning vocabulary, Arabic-speakers may further be at a disadvantage compared to other students for numerous reasons. For example, as has previously been stated, they do not have the

advantage that students coming from Romance languages may have as English uses many Latinate words *(*Thompson & Ružić, 1983). Furthermore, words are created in Arabic quite differently from English. In Arabic, *w*ords are comprised of a three-consonant root with affixes added to it (Ryan & Meara, 1991). It is these roots that are used as dictionary entries, thus making it difficult for Arabic-speakers to look up a word even in their own language. Consequently, many Arabic-speakers do not use dictionaries for spelling or vocabulary purposes (Thompson & Ružić, 1983) and may be reluctant to do so in English. However, this affix-root system may give Arabic-speakers an advantage in an ESL classroom as they are better able to learn "an entire system of vocabulary rather than individual words (p. 614)." Another advantage may be that both Arabic and English "encode language at the level of phonemes" (Fender, 2003, pp. 292-293). However, this could also serve as a disadvantage as English letter-phoneme mapping can be inconsistent, unlike Arabic. Indeed, English uses a much less "phonologically transparent*.*" alphabet than Arabic, likely causing confusion for the ESL learner.

The connection between using a varied vocabulary correctly and academic success has been made clear. As students who will be continuing on to a mainstream university setting need a solid knowledge of both an academic vocabulary and high-frequency vocabulary, teachers and students both must focus on how students can best learn and use a varied vocabulary. Measuring how well students use the vocabulary they are expected to know and, ultimately, how well-prepared they are for non-ESL settings is a worthy endeavor and will be the crux of this study.

Various factors that may influence how students acquire and use language and, specifically, vocabulary have been presented. What is lacking from the literature is an analysis of how populations who share an L1 but come from different educational and linguistic backgrounds might differently acquire and use vocabulary. Most studies attempting to gauge an

ESL student's vocabulary account for variables between or among populations such as student's L1, educational, cultural or linguistic background (Cameron, 2002; Carson, 1992; Read, 1988; Ryan and Meara, 1991) yet they assume that members of the same L1 group will have similar backgrounds. Most studies isolate L1 as the overriding factor that determines acquisition and use. They then define further possible influences such as education or linguistic background without accounting for possible variance of these influences *within* the L1 group.

For example, Carson (1992, p. 56) studied the educational situations of Japan and China and the effects they might have on ESL students' writings. She agrees that educational background is an important factor that influences students' expectations about writing and, ultimately, their success in writing classes. She states that teachers need to be aware of these differing backgrounds as they may affect how ESL students "approach the often formidable task of learning to write in English." However, again, this study only examined students' L1 and did not account for possible differences among students from within different parts of, for example, the Chinese-speaking world.

Is it accurate to group students only under the heading of L1? It is not unreasonable to think that a Chinese-speaker from Taiwan might have a very different linguistic and cultural background than one from Hong Kong and that they may represent different populations. While their L1s are the same, they likely come from very different backgrounds, politically, culturally, educationally and linguistically. Indeed, Corson (1997, p. 672) states that "students' life histories have [an impact] on their learning and use of academic English words."

30

4.0   METHOD

The present study will be based, in large part, on an experiment performed by Laufer and Nation (1995, p. 308) in which they used the LFP to test two writing samples produced by 65 subjects representing three proficiency groups in an attempt to "isolate this factor of lexical richness and observe it change." In their study, Laufer and Nation found that the LFP was able to discriminate "between learners of different proficiency levels" (p. 319) and that the LFP is a "reliable and valid measure of lexical use in writing." While the present study will include fewer subjects, its strength will be in the number of texts *(n* =281) and the length of time used to observe possible change of lexical richness. While Laufer and Nation's experiment used texts collected over one week, this study will employ texts used over numerous semesters.

Laufer and Nation's model of which writings and which words within those writings to include will be followed, with limited but appropriate modifications. As Laufer and Nation did, this study will include writings that were part of students' regular class assignments. While Laufer and Nation used compositions ranging from 300 to 350 words, this study will allow shorter compositions. Most "compositions" written in Levels 2-3 in the ELI are much shorter than those used by Laufer and Nation. Therefore, a minimum of 50 words has been set for a "composition" to be considered. Like Laufer and Nation, when a word was used incorrectly, it was omitted from the total count and considered to be "off-list." While Laufer and Nation

corrected misspelled words before submitting them, this study will be less tolerant of misspellings. Only two misspellings per word will be allowed for them to be considered. This is due to the fact that students in the ELI are offered typing lessons and are expected to use a word processor when submitting their writing electronically as they did for these data. Therefore, they are expected to make of the spell-check tool and gross misspellings will be equated to not knowing the word.

4.1   PARTICIPANTS

It has been established that many Libyan and Saudi Arabian university students seek degrees abroad. Many of these students are presently enrolled at the English Language Institute (ELI) at the University of Pittsburgh. In an attempt to understand the role that differing backgrounds may play in vocabulary acquisition and use, this section will present the demographic information of the participants, as reported by the students themselves.

Participants were Libyan *(n = 12)* and Saudi Arabian *(n = 12)* former students of the University of Pittsburgh's English Language Institute (ELI) who produced written texts assigned by their instructors in either a Grammar of Writing class as part of their normal class assignments. Included were students who were enrolled in various levels at the ELI, from two through five for a minimum of two terms. Many students studied at the ELI for numerous terms and produced texts at various levels throughout various terms. Other students may have been assigned to different levels for Writing and Grammar in the same term. Consequently, data at various levels was able to be collected from many participants during a range of terms. This can

be observed in the distribution of level illustrated in Table 2. While there were only 24 total participants in the present study, most participants, with very few exceptions (*n*=6) submitted writings at various levels. Numerous students do not enroll in all five skill classes offered by the ELI every term; some may enroll only in one or two per term. This explains why a student may have been enrolled for two terms but only enrolled in one Writing or Grammar class. Table 3 provides information on how many texts, at each level, from each country were collected and used in the study.

Table 2. Libyan and Saudi Enrollment at Each Level

Nationality	Number	Level 2	Level 3	Level 4	Level 5
Libyan	12	2	4	8	3
Saudi Arabian	12	11	11	8	5
Total	**24**	**13**	**15**	**16**	**8**

Table 3. Total Number of Texts per Country and Level

Nationality	Level 2	Level 3	Level 4	Level 5
Libya	18	19	37	11
Saudi Arabia	49	45	73	29
Total	**67**	**64**	**110**	**40**

Upon commencing studies in the ELI, students are given placement tests to determine at which level they should begin. Of particular significance to this study were the students' scores on the vocabulary section of the Michigan Test of English Language Proficiency. On this test, the Libyans had a much higher mean score (*M*= 15.3, *SD*= 5.54) than the Saudi Arabian students (*M*=7.16, *SD*= 3.79). However, both groups had very similar means of measures of depth. For

the TTR, the Libyans had a mean of 6.6 with a standard deviation of .816 while the Saudi Arabian students had a mean of .534 with a standard deviation of .054. Similar means can also be observed in the Guiraud Index. The Libyan students had a mean of 6.6 with a standard deviation of .816. The Saudi Arabian students again had similar statistics with a mean of 6.2 and a standard deviation of .659. Incoming students are also asked to provide their English learning history by means of an online questionnaire. Among the questions asked are: which is/are their non-native language(s), how long they studied English prior to entering the ELI, which language(s) they presently speak at home and if they studied vocabulary as part of their studying of English. Table 4 presents their answers to those questions. Not all Libyan students answered the questionnaire and some only provided partial answers, which explains the discrepancy in the numbers. Of particular note in the table is 18 out of 25, or 72%, respondents for whom the information was obtained provided English as their non-native language and 13 out of 25, or 52% stated that they had studied vocabulary as part of their English learning history.

There are four participants whose answers may be cause for closer attention to their measures of lexical richness. There are three students from each group, Saudi Arabian (n=2) and Libyan (n=1), who reported neither having studied vocabulary nor speaking English at home presently. It would be reasonable to hypothesize that their lexical richness means would be lower than their counterparts who have had and continue to have greater use of the language. Furthermore, one Libyan student reported French as being her first non-native language. All other students provided English or Arabic as the L1s. If Thompson and Ružić, Corson and Tidball and Treffers-Daller are correct and students who speak a Romance language have an advantage in learning English vocabulary, it would be reasonable to hypothesize that the French

speaker's lexical richness means would be higher than her counterparts. We will revisit these hypotheses in the discussion section.

Table 4. Linguistic History of Students

	Libyan (*n=7*)	Saudi (*n=13*)	Total
Speak English at Home	6	9	15
Consider English as NNL	5	13	18
Studied English 5 years+	2	13	15
Studied English 3-5 years	1	0	1
Studied English 0-3 years	2	0	2
Studied Vocabulary	4	9	13

4.2   MATERIALS

Student writing samples from both Grammar and Writing classes were collected by using the ELI's Online Submissions System (OSS). This is an Internet-based program that teachers use to assign both in-class assignments and homework assignments to their students. After an instructor posts the assignments, the students submit the assignments online. This program stores each student's written compositions and categorizes them by term, skill, proficiency level

and assignment. Further, the program stores students' demographic data such as placement test scores and linguistic history. By using the OSS, it is possible to see how many assignments each student has produced, for which skill and at which level. It is also possible to see the teachers' instructions for the assignments.

The Level 2 pre-intermediate level texts analyzed were primarily descriptive in nature and were one paragraph in length and were, on average, 101 words long. For example, students were asked to describe their hometowns, their best friends, their apartments, their favorite teachers. The Level 3 low-intermediate texts were also one paragraph in length and averaged 113 words per text. Like Level 2, they also wrote descriptive paragraphs but included instructional paragraphs and process paragraphs. Common topics were how to choose a university, effective study methods and how to do well on a test. In Level 4, the intermediate level, texts were largely five-paragraph essays comparing and contrasting their hometowns with Pittsburgh, possible effects of eating poorly and how lifestyles in their home countries have changed. Level 4 texts averaged 180 words in length. The high-intermediate Level 5 texts were the longest, with an average of 228 words per text, and the closest to what university professors would consider "an essay." They were often argument, cause and effect or classification essays. An example of instructions given to Level 5 participants were to describe an important decision the student has made in life and the effect it has had.

4.3   PROCEDURES

Only the first draft of a composition was considered in this study as teacher feedback could affect the students' natural vocabulary use and their free production. Further, assignments that focused on the ELI's core vocabulary list or that were given any instruction regarding vocabulary were discarded for the same reason. This was determined by reading the teacher's instructions for the online assignment. Texts consisting of fewer than 50 words were excluded from the study as were texts used as typing practice as these might not reflect the students' true vocabulary knowledge. The texts with fewer than 50 words were equivalent to approximately two sentences and therefore, not deemed sufficient data for this study. Similarly, when focusing on typing in English, students are not likely focusing on vocabulary, thus, typing exercises were excluded.

Texts were checked for misspellings as those would be ranked as "off-list" by the corpus word sorter. Students were allowed to make two misspellings per words of any sort, be it wrong letter, transposition of letters, epenthesis, or metathesis. If there were two or fewer misspellings, the misspellings were corrected and each applicable writing sample was then pasted into the corpus website http://www.lextutor.ca/vp/eng/ where each word was given a ranking of frequency from the 1,000 most-frequent words to the 2,000 next most-frequently used words, as belonging to the Academic Word List (AWL) or "off-list." Simple tallies of each student's usage of 1,000 level words; 2,000 level words, AWL and off-list words for each text were entered into an Excel spreadsheet. Using that spreadsheet, lexical profiles were created for all participants at each level. The profiles included the lexical frequency data of all eligible writing samples and a short title describing the topic of the composition. The total number of words

used (tokens) and the number of different words (types) were calculated for the entire text, as well as tokens and types at each frequency ranking. The students' Type/Token ration (TTR), that is types/tokens and Guiraud Index, or types/√tokens, were then calculated and added to the texts' lexical profile. A sample of a student's lexical profile can be found in Appendix B.

After collecting students' lexical data, students' demographic data was collected, again, by using the OSS. Information on their linguistic background was garnered such as which language(s) they presently speak at home, which is/are their native and non-native language(s), how they learned their non-native language(s) and how long they have been studying them. Also included were the students' Michigan Test of English Language Proficiency Test (MTELP) vocabulary score that they took as a placement test upon entering the ELI.

Both the demographic and lexical usage data were entered into the statistical software Statistical Package for the Social Sciences (SPSS). Calculation of means, Mann-Whitney U tests and correlation were executed. Means for each level and both nationalities were calculated while only Mann-Whitney U tests were executed only for Level 4. Correlation analysis was performed among all measures, excepting total tokens used. These results are presented in Section 5.

5.0   RESULTS

5.1   DESCRIPTIVE STATISTICS

The mean and standard deviation for each nationality's use of vocabulary at each level were calculated and the data is presented in the following tables. Both Level 2 groups have similar TTR and Guiraud Index scores suggesting that they have a similar depth of lexical knowledge. However, when turning to the measure of breadth of lexical knowledge, that is the lexical frequency rankings, differences can be observed. As can be observed in Table 5, the Level 2 Saudi Arabian students have a much higher mean (M=118.518) of words (tokens) from the 1,000 most-frequent words list than Libyan students (M=84.815) and a slightly higher mean of different words (types) from the 1,000 most-frequent words list. The Libyan students have a higher mean use of the 2,000 most-frequent words, both tokens and types. However, the Saudi Arabian students have a slightly higher mean usage of AWL words, again, both of token and type. Level 2 exhibited the greatest difference in sample size. While the software that was used, SPSS, does account for this, it must be noted that having more Libyan students in the sample may have affected the results.

Table 5 . Level 2 (Libyan n=2, Saudi Arabian, n=11) Means and Standard Deviation

Measure	Mean	Standard Deviation	Mean	Standard Deviation
TTR	.579	.029	.531	.09
Guiraud Index	5.501	.019	5.792	.608
K1 Token	84.815	6.244	118.518	58.329
K1 Type	44.015	1.109	53.672	16.045
K2 Token	11.153	6.853	7.28	3.225
K2 Type	7.576	3.426	5.431	1.911
AWL Token	1.03	.609	1.556	.9422
AWL Type	.815	.5874	1.219	.7782

When examining the Level 3 means, a similar pattern can be observed. Both groups have very similar scores of depth of lexical knowledge, TTR and Guiraud. Again, the Saudi Arabian students have a higher mean of the 1,000 most frequently-used words, both in token and type, than the Libyan students. However, in Level 3, the Saudi Arabian students have a slightly higher mean usage of the 2,000 most-frequently used types while both groups have nearly the same mean of types. Again, the Saudi Arabian students have a slightly higher mean, both in type and token use of words from the AWL list. This can be observed in Table 6 below.

Table 6. Level 3 (Libyan n=4, Saudi Arabian, n=11) Means and Standard Deviation

	Libyan		Saudi Arabian	
Measure	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**
TTR	.572	.063	.573	.049
Guiraud Index	5.702	.939	5.742	.7
K1 Token	85.253	22.099	95.72	37.152
K1 Type	47.407	13	50.136	14.802
K2 Token	3.739	2.441	4.294	3.451
K2 Type	3.489	1.975	3.2	2.053
AWL Token	1.017	.926	1.718	1.618
AWL Type	.896	.801	1.385	1.306

Level 4 students' lexical richness begins to deviate from the pattern suggested by levels 2 and 3. As can be observed in Table 7, the Saudi Arabian students have a higher mean use of the 1,000 and 2,000 most −frequently used words, both token and type. However, it may be at Level 4, that Libyan students begin using more AWL words as they have higher means, both in usage of types and tokens. Indeed, most Libyan students in the sample began their ELI studies at Level 4.

Table 7 . Level 4 (Libyan n=8, Saudi Arabian, n=8) Means and Standard Deviation

	Libyan		Saudi Arabian	
Measure	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**
TTR	.546	.109	.514	.069
Guiraud Index	7.049	.653	6.65	.38
K1 Token	171.195	82.40	195.715	82.2
K1 Type	76.852	23.774	81.758	18.889
K2 Token	7.581	3.395	10.426	7.085
K2 Type	6.425	3.574	6.727	2.675
AWL Token	8.885	5.39	4.621	3.788
AWL Type	5.322	2.402	3.175	1.902

As will be discussed in the following section, the Level 5 means of lexical richness were the only measures to have been found to be statistically significant. Indeed, this can be observed in Table 8, at the 1,000 word level. The Saudi Arabian students use significantly more types (*M*=100.79) and tokens (*M*=233.7) of the most frequent words and, indeed, have higher means in all measures. Whatever gains the Libyan students may have made in Level 4 seem to evaporate once they reach Level 5 as their mean usage is likely either to decrease or stay nearly the same as it was in Level 4.

Table 8. Level 5 (Libyan n=3, Saudi Arabian, n=5) Means and Standard Deviation

	Libyan		Saudi Arabian	
Measure	**Mean**	**Standard Deviation**	**Mean**	**Standard Deviation**
TTR	.545	.035	.49	.031
Guiraud Index	7.153	.038	7.545	.381
K1 Token	153.7	20.979	233.7	32.464
K1 Type	76.6	4.97	100.79	8.217
K2 Token	9.388	2.311	12.765	4.025
K2 Type	7.388	2.11	9.241	1.76
AWL Token	5.1	3.097	6.952	3.596
AWL Type	4.8	2.714	4.9	2.473

When ignoring level but analyzing only country, few differences of vocabulary use can be observed as is illustrated in Table 9 below. MTELP scores are the only observable and significant difference with the Libyans having a much higher mean (M=15.3) than the Saudi Arabian students (M=7.16). Though the Libyan students scored over twice what the Saudi Arabian students scored, these entrance exam vocabulary tests in no way predicted their future vocabulary use in the classroom. It was hypothesized the Libyan students would have higher means of lexical richness but, as can be observed in the table, this is clearly not the situation. With the exception of their MTELP vocabulary scores, the results of all measures of lexical richness are similar.

Table 9. Means and Standard Deviation by Country

Measure	Libyan		Saudi Arabian	
	Mean	Standard Deviation	Mean	Standard Deviation
MTELP	15.3	5.548	7.16	3.791
TTR	.573	.073	.534	.054
Guiraud Index	6.6	.816	6.2	.659
K1 Type	64.479	20.541	65.864	19.22
K2 Type	5.993	2.679	5.651	2.383
AWL Type	3.512	2.68	2.574	1.242

5.2   MANN-WHITNEY U RESULTS

Mann-Whitney U tests were carried out to compare the lexical richness of Libyan and Saudi Arabian ESL students at Level 4. Mann-Whitney U tests are non-parametric tests that help determine whether or not two groups can be considered from different populations. As Level 4 had the same sample size ($n=8$), this seemed an appropriate level to determine possible statistical significance between the two groups. There was a significant difference found at for use of K1 tokens ($p=.047$) and AWL type ($p=.001$). Further, the Mann-Whitney U tests suggested a statistical difference when considering the measures of depth, TTR and Guiraud Index. The TTR was significant $p=.001$ while the Guiraud Index was significant at $p=.006$. These findings suggest that Level 4 Libyan and Saudi Arabian students *do* have different depths of vocabulary knowledge and *do* use AWL types differently.

5.3   CORRELATION ANALYSIS

In an attempt to discover relationships between the measure of depth and breadth and discern if one measure might predict students' results on the other, Pearson correlation analyses were also executed, producing numerous statistically significant findings.   The means of all measures (MTELP vocabulary entrance exam, TTR, Guiraud, K1 Type, K2 Type and AWL Type) of all students with the exception of means of lexical tokens were included to assess possible relationships. The Guiraud Index, a measure of depth of lexical knowledge, suggested a strong relationship with all measures of breadth of lexical knowledge, the LFP rankings. The TTR, the other measure of depth, however, did not suggest any relationship between depth of knowledge and use of AWL words, only with K1 and K2 usage. Furthermore, this relationship was found to be negative. These relationships can be observed in the following scatterplots and all results are presented in Table 10 below. As illustrated in Figures 1 and 3, the TTR measure indicated a significant negative relationship only between K1 word use (r= -.699, p<.0001) and K2 word use (r= -.443, p<.05).   As can be observed in Figures 2 through4, the data indicated strong associations between the Guiraud Index and use of K1 words (r= .831, p <.0001), use of K2 words (r= .711, p<.0001). Further, there was a suggested relationship between the Guiraud Index and use of AWL word$s$ (r= .82, p<.0001).

Table 10. Results of Breadth and Depth Correlations

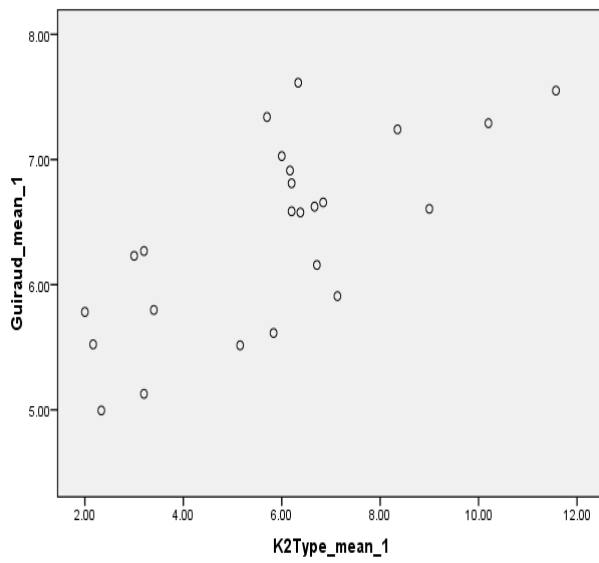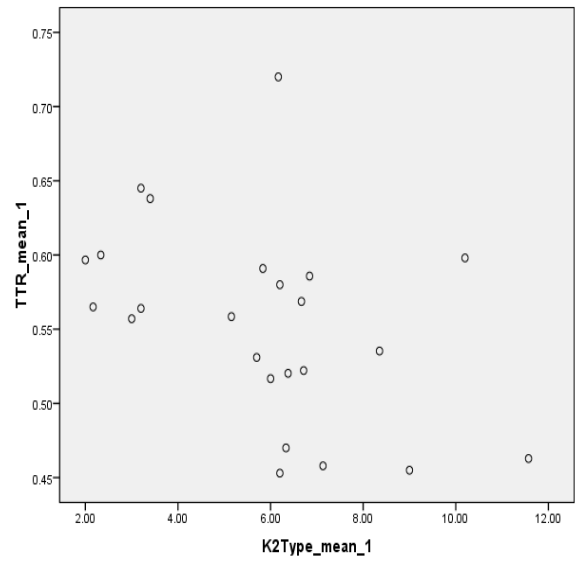| Measure	MTELP Mean	TTR Mean	Guiraud Mean	K1 Mean	K2 Mean
TTR Mean	.219				
Guiraud Mean	.333	-.279			
K1 Type Mean	.028	-.699**	.831**		
K2 Type Mean	.049	-.443*	.711*	.665**	
AWL Type Mean	.420*	.354*	.820**	.746**	.617**
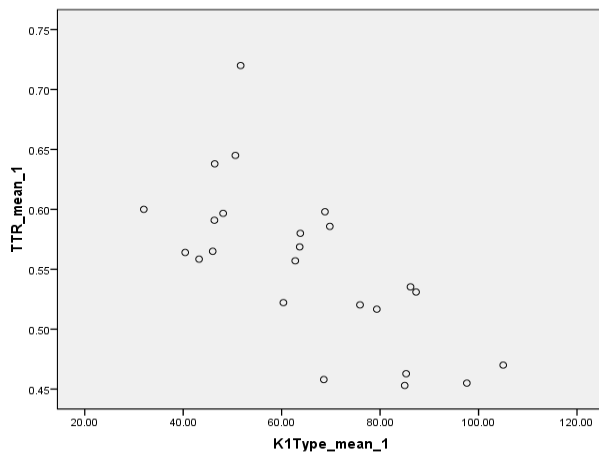
Figure 1. Scatterplot of TTR means with K1 Type means.
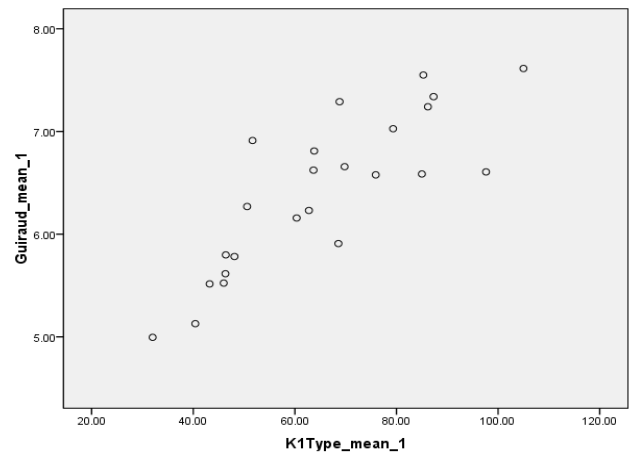
Figure 2. Scatterplot of Guiraud means with K1 Type means.

Figure 3. Scatterplot of TTR means with K2 means.

Figure 4. Scatterplot of Guiraud means with K2 Types means.

6.0   DISCUSSION AND CONCLUSION

As can be observed in table 9, the Saudi Arabian sample had very similar mean usage of vocabulary while it had been hypothesized that the Libyan sample would use a larger and/or more varied vocabulary. Further factors that may help to address why it is not possible to reject the null hypothesis for other measures at other levels warrant deeper examination.

Certainly, there are various factors that may have influenced the data and the paucity of observed statistical significance in comparisons of means of lexical richness. Chief among them may be the small sample size used. It would behoove future researchers on this subject to include larger sample sizes in an attempt to more accurately reflect the population in the ELI and, ultimately, possibly find more statistical significance.

Perhaps Gass' and Corson's suggestion of social influences on L2 acquisition other than educational background could be examined deeper. Students' social class and their attitude toward the target language were offered as suggestions of social influences both of which may have affected the data and may warrant further research.

Furthermore, these findings suggest that access to Latinate languages did not affect AWL use, as suggested by Corson and Tidball & Treffers-Daller. If it had had an effect, a difference between Libyan and Saudi Arabian would have been observed in the data. Therefore, this finding suggests that Saudi Arabian Arabic-speaking students, lacking access to a Latinate

language, are not at a disadvantage for learning English vocabulary, as suggested by Thompson and Ružić. To further examine this point, returning to the French-speaking non-native speaker seems appropriate.

As was previously stated, one Libyan student provided "French" as her non-native language and it was hypothesized that she would have a higher mean of lexical richness when compared to her classmates. Comparing her means with one of her classmate's may have merit and they suggest, again, that her Latinate background was not beneficial. With the exception of her K2 type and token usage in both levels and her K1 token usage in Level 3, her means are similar to or lower than her classmate's. Their means of all measures are presented in Table 11 below.

Table 11. French-speaker's means of lexical richness compared with Arabic-speaker

Measure	French-Speaker, Level 2	Arabic-Speaker, Level 2	French-Speaker, Level 3	Arabic-Speaker, Level 3
TTR, *M*	0.6	0.57	0.59	0.66
Guiraud, *M*	5.9	5.96	5.69	5.74
K1, Token, *M*	80.4	104.5	84.71	60.5
K1, Type, *M*	44.8	51.5	47.49	38
K2, Token, *M*	16	7	2.86	4.5
K2, Type, *M*	10	7	2.86	4
AWL,Token, *M*	0.6	2	1.57	1
AWL, Type, *M*	0.4	1	1.29	1

As was stated earlier, Corson (1997) suggests that there exists a direct connection between how prepared one is to learn academic vocabulary and how they acquire and use it. It had been hypothesized that Libyan students would use a vocabulary of higher lexical richness than their Saudi Arabian counterparts and this was not indicated in the data. Furthermore, while the Libyans had a statistically significant higher mean vocabulary score MTELP (*M*= 15.3) than the Saudi Arabian students (*M*=7.16), their written production in class was not statistically different from the Saudi Arabian students. Indeed, it was found to be lower than the Saudi Arabian students in various instances. Further, the Pearson correlation analysis suggested that there exists no relationship between either groups' MTELP vocabulary score and their lexical richness.

The vocabulary section of the MTELP is purely word recognition, or, using Henriksen's terms, "partial-precise knowledge," whereas classroom writings require free production, or, "receptive-productive knowledge." It may be the case that the Libyan students have mastered

the first step in the word knowledge continuum but have not progressed beyond it. They are able to recognize academic English words but are unsure of how to produce them. Libyan students may be more familiar with this type of test and have more sophisticated word-recognition aptitude than their Saudi Arabian counterparts. Moreover, it may be that their educational and linguistic backgrounds are a hindrance rather than a benefit in written production. Their motivation may be lower than the Saudi Arabian students, because they assume that they already know these words and do not to exert special effort to use or learn them. Conversely, the Saudi Arabian students may be cognizant of not knowing these words and may feel particularly motivated to learn and use them. If, indeed, most young Saudi Arabians plan to get jobs with an oil company where they will need to know English, this, too, may affect their motivation at the ELI. This may be a case of motivation trumping other factors.

Moreover, Saudi Arabians also exhibited the most growth in means of AWL words used. In comparing Saudi Arabian and Libyan AWL means at the beginning and end of their studies in the ELI, the Saudi Arabian students were much more likely to have higher means than their Libyan counterparts. In fact, in two cases, Libyan students used *fewer* AWL words at the end of their studies than at the beginning. The following tables display these findings.

Table 12. Libyan Students' Mean AWL use at the beginning and end of their studies

Student ID	Beginning-Ending Level	Beginning AWL Mean	Ending AWL Mean
558	2-3	.4	1.29
564	3-4	.5	1.5
638	4-5	7	3
646	4-5	7.25	8
683	4-5	6.5	3.67

Table 13. Saudi Students' Mean AWL use at the beginning and end of their studies

Student ID	Beginning-Ending Level	Beginning AWL Mean	Ending AWL Mean
264	2-3	0	2
29	3-4	0	1
11	4-5	1.4	4.67
25	4-5	3.5	7.78
35	4-5	2.71	5.29

While the Libyan students scored significantly higher than the Saudi Arabian students on the MTELP vocabulary entrance exam, they are not producing as many academic words in their writing. They tested better at recognizing words but do not use them to the extent that Saudi Arabian students do. Certainly, recognition of and production of words are very different skills and, has been established, free production may represent the highest end of a word knowledge continuum while recognition is at the lower end. The data collected for this study all indicate that Saudi Arabian students simply are using more academic words than are Libyan students. As

was suggested by the Pearson correlation analysis, the students' MTELP scores had no relation to their lexical use in class which can certainly be observed in the above table.

6.1   EFFICACY OF MATERIALS USED

As was purported by Daller *et al.,* the Guiraud Index may be the more stable of the measures as it indicated more correlation relationships among the measures in this study than did TTR. By using the square root of the total tokens used, one can better gauge texts of differing length as was necessary in this study. If students' TTRs decrease in longer texts, we are not provided an accurate accounting of their true lexical richness. Using the square root of the total tokens may compensate for text length and the fact that the number of types in a text does not increase as quickly as tokens.

Of concern may be the rankings of word frequencies and the effect it may have had on the present results. Certainly, it is difficult to stay abreast of and document language change however, for a word frequency list to remain reliable and valid as Laufer and Nation claim it to be, it needs to do precisely this. For example, according to the VocabProfiler, the word "Internet" is considered to be off-list. While that was likely the case a mere few years ago, it surely should be at the 2,000 if not 1,000 most-frequently used level in 2009. Arguably, academic words are less volatile; however, the most commonly-used words are ever-changing and frequency lists must remain up to date to reflect current usage.

A further consideration when measuring lexical richness must be the prompts the students are given to write about. It was noted that students' use of AWL words was often contingent on

the subject. The more scholarly the subject, the more AWL words the students were likely to use. When asked to describe their apartments, students used primarily the 1,000 most-frequent and off-list words. However, when asked to compare and contrast the educational systems of the home countries and the United States, many more AWL words were produced. In future studies, this is an aspect that may deserve closer scrutiny and perhaps only those texts deemed "scholarly" should be considered. The following are example texts that were included in the study where this difference can be observed. The texts are presented in unedited form, including all errors. The following text is from a Level 2 Writing class where the topic was a description of your bedroom in your home country. The student used 24 types of the 1,000 most-frequent words, three types of the 2,000 most-frequent words and one AWL word, "style."

My room in my country is very nice and big. There are two windows. There is one bath room in my room. There is one bed in my room. There are two chairs and one night stand in my room. There are two lambs in it. There is on mirror in my room. There are 3 closets in it. There are two pictures on the walls. It is a modern style.

In the next writing sample, taken from a Level 3 Grammar class, where the topic was "Study habits," elicited use of slightly more AWL words. In this sample, the student used 49 words from the list of the 1,000 most-frequently used words, six from the 2,000 most-frequently used words and two AWL words, "computer/s" and "relax."

I study English every day. My teacher gives me homework every day. After studying English, I go to my apartment. I sleep just one hour, and then I take a shower. I usually make coffee or tea and I dress in simple clothes to help me relax before writing the homework. I go to my bed and close the door because I need quiet. After that, I open my computer because there is a dictionary and Microsoft Word on the computer. They help me to write the homework. For example, I am writing this homework on Microsoft Word now. This is my routine to write my homework.

The next composition is from a Level 4 Writing class when the topic was "Learning strategies." It is at this level when an increase in use of AWL words emerges. For example, in

54

this text, the student incorporated 142 types of the 1,000 most-frequent words, 12 of the 2,000

most-common and seven types of AWL words, "definitions," "final," "focus/ing," "grades,"

"majority," "project," and "strategy/ies."

Many students try and are still trying to use a lot of learning strategies. Some of them have succeeded and the others have failed. As we know, learning strategies are depending on the field in which you study? For example, if you study at law school you have to read a lot of books, however if you study at engineering school you should work a lot in your projects. In this essay, I will introduce my strategies on how to be a successful language learner by using these strategies reviewing the class work in your home, writing the new vocabularies and their definitions, focusing during the class, asking your teacher or your classmate if you don't understand any point, doing a great number of exercises, reviewing your test & homework mistakes and try to correct them. The first strategy is to preview the class work at home. Actually, you might read the lesson before you go to your class. That will help you to focus on the difficult points and understand them much better than if you go without preparing before the class. Don't forget to put some marks next to some points that you feel they are important or maybe they needs more focusing during the class.

The second strategy is to write the new vocabulary and their definitions. Also it's a good idea to write one example sentence, which will help you to remember the difficult words. Then study and go over them from time to time. This continuous review will help you to remember the vocabulary when you speak.

The third strategy is you should focus during the class. Never think about anything else. So, you will know which points your teacher is focusing in by observing your teacher words such as watch the different between st. and st. else, be careful when you see this. Also, the teacher sometimes explains some points and gives explanations much better than the book. Next, reviewing after the class work will help you saving the information in your mind.

Another strategy is to ask your teacher or your classmate if you don't understand some point. Remember, never delay to ask because you will not remember until the time of test. Ask him or her to give you some examples or explanations for points that you have difficulty understanding it. Ask him to explain it in another way.

One of the important strategies is to do a great number of exercises especially grammar class. If you do this you will find yourself much better off in the subject. In addition, this strategy will help you to know which points do you have difficult with. Then, you should work to improve your self. For example, if you find yourself have a difficult with Past Participle then try to read the grammar again and do some solving exercises and try to solve your test again.

The Final strategy, review your test and homework mistakes and try to correct them. This strategy is one of the important strategies that a majority of students are careless with. This strategy will help you to know where you have mistakes. Next, review your corrected answers before your next test.

These strategies come from my experience and I have found them very useful. From my experience my English grammar was improving by doing a lot of exercises. Any way, you may find some of

them will be more helpful to you more than the others. However, try to do some of them and keep going on doing them; you will see yourself better in your grades and knowledge.

The final text is taken from a Level 5 Writing Class where more academic essays were the topics. For example, in this composition, an argumentative essay, the author wrote about limiting the size of families and used a high number of AWL word types, 21. Furthermore, Level 5 texts were typically the longest as can be observed among the four text samples provided here. In the following text, the author used 172 of the 1,000 most-frequently used words and 14 types of the 2,000 most-frequent words.

The size of young family in each country takes a lot of time from different classes of people to decide which better for our live and our countries. There are many people support the opinion says we should limit the size of young family for many reason: most of us as parents are workers, we don't have a lot of time to spend it with our children; however, in my opinion we should extend the size of young family instate limit it for many reasonable argues.

The first reason that may claimed by some people who support limiting the size of young family is most parents are workers; therefore, they can't take care for many children. It could be reasonable! However, there are many ways we could use to solve this problem. First, we should find some reliable people to care our children while we are in our jobs. To give an example, it should be there many day cares, which have good methods to deal with children, around us. Second, we can also ask some of our relatives to help us about caring our children; however, that will not be available if our relatives even limit their families' size. For instance, once I was talking to one of my neighbors, he said I only have two brothers and on sister all of whom live in different reign, and if I had more one here in Pittsburgh, I would put my young son with. Thus far, these two beneficial solutions will help worker parents to care their children.

The second reason according to some people believe that limiting size of young family should be followed is if the parents don't have enough time to their children, they don't have to have many children because they believe we should set aside some of our time for our children if we want them to be active people in their communities. It's wonderful thinking; however, I don't think the children need a lot of time to care them by their parents. In the other words, parents can spend enough time with their children by meet them on dinner table or on the weekends. In case some of children need some advice or consults, the parents should select suitable time to discuss with them individually. However, the average percentage of the time spending to their children individually will not take more than %5-8 a month. Therefore, we can spend quality time with our children if we think about how much time really they need.

In addition to preceding argues that we should not limit the size of young family, most countries stand a lot on their young because they are their future. It is really problem when we don't extend the size of young family. If we don't do that, we find ourselves in hug dilemma because adults' rate

will be doubles the young rate. That means, more retired adults and less fresh workers. Therefore, after a couple years the country will be insignificant. For example, I don't imagine how the consistency will be in Europe between the adults and young rate because the rate of birth there is roughly the same rate of the death. Consequently, we have to increase the rate of young in our communities to make our countries are lively and active.

From all of that, I believe that increasing the number of young in family is very important. Although we are workers and we don't have a lot of time to our children, we can ask some trusty people to care our children in our hectic days, and spend enough time with them as a group and lastly we should not forget our young are our future.

6.2   LIMITATIONS OF THE STUDY

It must be noted that limited biographical information on the participants was available (refer to Table 4 on page 32) and interviews with the participants to glean further information would have been beneficial. Through interviews, information about their lives in the United States, their goals for learning English, their study habits and their exposure to other languages could have been obtained. As nearly all students listed English as their primary second language, learning most precisely what their exposure to it, as well as other languages, might have lent strength to the paper's hypothesis and analysis of the results. Gauging the students' attitudes toward English-speaking countries might also have informed their motivation.

Furthermore, the small sample size may also have affected the results and statistical significance of the tests. While there were an equal number of both populations, in only one level, Level 4, was there the same number of participants. For all other levels, there were more Saudi Arabians than Libyans. Replicating the study with more students and ensuring that there are the same number of students represented at each level may affect the results.

6.3   PEDOGOCIAL IMPLICATIONS

While both deep and partial knowledge of vocabulary are important and, indeed, integral steps in acquiring vocabulary, they represent different types of knowledge. It may be unrealistic to expect students to have a deep knowledge of all 50 AWL words and additional words from their in-class texts that they are presented in the ELI. However, they must be presented appropriate outlets to use them in hopes of maximizing and deepening their knowledge. If they are expected to produce academic English words, they must be given academic topics to write about. Even in the lower levels, students are exposed to academic words and need to be given appropriate channels to produce them. However, this must be done at the appropriate time in the students' learning process. Knowing that free production represents deep vocabulary knowledge, teachers should ask that students produce the words later in the week rather than earlier. Students should not be expected to use the words in any sort of meaningful way when they are first exposed to them. Initial exposure represents the most basic end of the word knowledge continuum when students are likely to know the words at a recognition level. Throughout the week, and indeed, the semester, it is reasonable to expect students to advance along the continuum, acquire a deeper knowledge of vocabulary and, ultimately, be able to produce them freely.

Moreover, students should be made aware of the different levels of lexical knowledge and it should be made clear to them that word recognition and word production represent these different levels. That some score well on word recognition pre-tests but later do not use them in class indicates that they have not deepened their lexical knowledge and may be overly reliant on basic vocabulary knowledge.

As it has been suggested that the MTELP score is not an accurate assessment of students' deeper word knowledge, greater attention might be paid to vocabulary use in the students' writing samples that are also a part of their entrance exams. It is here where deeper vocabulary knowledge, in addition to the word recognition on the MTELP, could be observed. This, coupled with the MTELP vocabulary score, might provide a more accurate assessment of their vocabulary knowledge and, ultimately, at which level they might perform at and most be suited to being their studies at the ELI.

Lastly, students should be taught morpheme structure in Englsih. If Arabic-speaking students are already accustomed to affixing morphology to create words, that experience must be used in an ESL classroom. While English does not rely on a three-consonant root to create words, it *does* make use of root words and affixes, something that ought not be new to Arabic L1 learners. This is an opportunity for the students to apply previous L1 knowledge to L2 acquisition in a positive, productive way. According to this study, explicit vocabulary instruction may be fruitful and perhaps explicit affix instruction would benefit *all* learners, not solely Arabic-speaking students.

6.4 ANECTDOTAL OBSERVATIONS

As an ESL instructor for five terms in the ELI, I can lend insight to help in understanding the fuller picture by providing some qualitative, anecdotal information about Libyan and Saudi Arabian students. The Libyan students whom I have taught in the ELI tend to be older, many are married with families and many are professionals in their home countries. Many are doctors who

wish to attend graduate school in the United States or wish to practice medicine here and must pass medical board exams to do so. The Saudi Arabian students tend to be younger, many of whom take full advantage of the social opportunities presented to them in the United States. Like the Libyan students, many Saudi Arabians are married and have children. However, unlike Libyan women, Saudi Arabian women do not drive and, consequently, Saudi Arabian male students are required to do the errand running, grocery shopping and delivering/picking up of the children. Many of them are studying for the TOEFL exam and for many, this seems to be their primary motivation for studying in the ELI. Indeed, it is this motivation alone that may explain their use of AWL words. They know they will need to recognize and produce these words for the TOEFL and are particularly motivated to learn them.

Libyan students seem to be more prepared for the United States educational systems than their Saudi Arabian counterparts. They appear to better understand what teachers in the United States expect of them as students and what is considered to be an appropriate role for teachers. Libyan students tend to ask more sophisticated questions, have more sophisticated observations and generally participate in class in a way that is typically more parallel with United States teachers' expectations. Libyan students are likely to participate by sharing original thoughts and ideas with the class whereas the Saudi Arabian students are more likely to participate by repeating what the teacher has stated. Again, for better or worse, this may be due to their differing schooling backgrounds that value different skills. Schools in the United States are likely more similar to what Libyan students are accustomed to than Saudi Arabian students. Schools in the United States more likely value critical thinking skills, discussions and questions rather than memorization, what has been established to be a key component of Saudi Arabian

schools. However, it may be precisely this aptitude at memorizing, coupled with TOEFL tests in the offing that helps the Saudi Arabian students acquire academic vocabulary.

6.5   CONCLUSION

This study attempted to analyze differences in Libyan and Saudi Arabian students' lexical richness by examining both their breadth and depth of lexical use. The Lexical Frequency Profiler and the Academic Word List were used to measure students' breadth of knowledge while the TTR and Guiraud Index were used to measure their depth of knowledge. The non-parametric Mann-Whitney U tests indicated a statistical difference in breadth of use of Level 4 students' use of K1 tokens and AWL types. This test also indicated a statistical difference in depth, indicating a difference in TTR and Guiraud Index scores. Further, the data indicated that the students' MTELP vocabulary scores did not predict their lexical richness as produced in written samples. Lastly, the Guiraud Index provided the strongest relationship among all measures.

Many ESL students enrolled in the ELI hope to advance to mainstream academic settings and, as has been established, writing well is a key aspect of succeeding in academia. It is the responsibility of both teachers and students to ensure that they have the tools necessary for this success. As writing with a varied, academically-appropriate vocabulary has been established as a feature of what is considered to be good writing, teachers must ensure that students leave the ESL classroom with knowledge of these words and knowledge of how to use them effectively. By expecting students to use low-frequency words in free productions settings such as writing,

we are expecting them to know words at the highest level on the lexical knowledge continuum and, thus, providing them greater benefit than simply exposing them to the words. Furthermore, while it has been suggested in the literature that it may be difficult for Arabic-speakers to acquire English vocabulary, this study suggested that their lack of knowledge of a Latinate language is not an impediment. Regardless of how difficult vocabulary acquisition and use may or may not be, the need for them to do so exists and perceived difficulty ought not to be a deterrent for either the student or the teacher.

By measuring students' lexical richness, we can begin to understand how well students are using the vocabulary they are expected to know in the ELI and will be expected to know and use both in mainstream university settings and everyday settings. Helping them to be successful in non-ESL settings should, after all, be the ultimate goal of ESL programs.

APPENDIX A

PARTICIPANT INFORMATION BY COUNTRY AND LEVEL

Student ID	Country	Level 2	Level 3	Level 4	Level 5
558	Libya	✓	✓		
563	Libya	✓	✓		
564	Libya		✓	✓	
624	Libya			✓	
638	Libya			✓	✓
639	Libya			✓	
646	Libya			✓	✓
681	Libya		✓	✓	
682	Libya			✓	
683	Libya			✓	
685	Libya			✓	
686	Libya		✓		
11	Saudi	✓		✓	✓

25	Saudi	✓	✓	✓	✓
29	Saudi	✓	✓	✓	
35	Saudi	✓	✓	✓	✓
45	Saudi	✓	✓	✓	
144	Saudi	✓	✓	✓	✓
146	Saudi	✓	✓		
147	Saudi	✓	✓	✓	
148	Saudi	✓	✓		
150	Saudi	✓	✓	✓	✓
264	Saudi	✓	✓		
373	Saudi		✓		

SAMPLES OF STUDENT LEXICAL PROFILES

Level 2

Text Six Hometown	tokens=107	types=57
TTR	0.53	
G	5.53	
K1	71	39
K2	3	3
AWL	4	3

Level 5

Text 15 Air Quality	tokens=139	types=94
TTR	0.68	
G	7.98	
K1	117	76
K2	8	8
AWL	9	8

APPENDIX C

RANKING OF ACADEMIC WORD LIST TOKENS USED BY SAUDI ARABIAN

STUDENTS BY LEVEL

Saudi Arabian, 2-3		Saudi Arabian, 4-5	
area	1000	academic	4000
benefit	1000	achievement	1000
channel	2000	adapt	3000
classic	3000	adequate	2000
communicate	2000	approach	1000
community	1000	attach	1000
computer	1000	available	1000
edition	2000	benefits	1000
experts	2000	chemical	2000
factor	2000	circumstance	2000
features	2000	comment	1000
files	1000	computer	1000
finally	1000	concentrated	2000
flexibility	2000	concept	2000
instance	2000	conclusion	2000
intelligent	2000	contact	1000
intermediate	5000	contrast	3000
job	1000	controversial	4000
location	2000	coordinate	3000
media	4000	create	1000
medium	3000	credit	2000
options	2000	criteria	2000

partner	2000	criterion	2000
primary	4000	culture	2000
relax	2000	debate	1000
reliable	2000	definitions	2000
rely	2000	definitely	1000
response	2000	depression	2000
security	1000	design	1000
stress	2000	documents	2000
style	2000	domestic	2000
text	2000	dramatically	2000
traditional	2000	elements	2000
		energy	2000
		equation	4000
		equipment	2000
		evaluate	5000
		eventually	2000
		evidence	1000
		extract	3000
		feature	2000
		finally	1000
		financial	1000
		flexible	2000
		focusing	2000
		furthermore	1000
		goal	2000
		grades	2000
		illegal	2000
		illustration	3000
		inevitably	4000
		injury	2000
		instance	2000
		institute	2000
		instructions	2000
		job	1000
		license	2000
		location	2000
		major	1000
		majority	1000
		medical	2000

mental	2000
ministry	4000
negative	2000
nevertheless	2000
normal	1000
obtain	2000
obvious	1000
options	2000
paragraph	1000
percent	1000
period	1000
phase	3000
positive	1000
reaction	2000
relax	2000
remove	2000
requires	1000
research	1000
schedule	2000
significantly	2000
similarly	1000
source	2000
strategies	1000
stress	2000
technology	2000
topic	2000
traditional	2000
transitions	5000
undertake	6000
unique	3000

APPENDIX D

RANKING OF ACADEMIC WORD LIST TOKENS USED BY LIBYAN STUDENTS BY LEVEL

Libyan, 2-3		Libyan, 4-5	
area	1000	achieve	1000
channel	2000	affecting	1000
committed	1000	analysis	2000
conclusion	2000	area	1000
consistently	2000	aspects	2000
culture	2000	assignment	2000
finally	1000	available	1000
job	1000	benefits	1000
lecturer	2000	bond	3000
located	2000	category	2000
medium	3000	communication	2000
nevertheless	2000	compensate	2000
paragraphs	1000	computer	1000
relax	2000	conclusion	2000
resource	1000	contacted	1000
similar	1000	contrast	3000
style	2000	controversial	4000
team	1000	crucial	3000
traditional	2000	define	2000
		demonstrated	2000
		depressed	2000

despite	2000
diversity	5000
dramatically	2000
economic	1000
editor	2000
eliminate	5000
ensure	2000
environment	1000
evidence	1000
exceed	4000
exhibited	2000
experts	2000
features	2000
finally	1000
furthermore	1000
goals	2000
grade	2000
guarantee	2000
highlights	2000
income	1000
instance	2000
intelligence	2000
internal	2000
issue	1000
job	1000
journals	5000
located	2000
major	1000
maximum	2000
media	4000
medical	2000
negatively	2000
networking	4000
obtain	2000
occur	2000
perspective	4000
positively	1000
previous	1000
primary	4000

priority	2000
professional	2000
range	1000
relaxed	2000
required	1000
research	1000
reveal	3000
role	1000
select	2000
significant	2000
similarities	1000
strategies	1000
style	2000
sum	2000
sustain	4000
theory	2000
thesis	6000
traditional	2000
trend	4000
undeniable	2000

BIBLIOGRAPHY

Ahmida, A. A. (1994). *The Making of Modern Libya.* Albany, NY: State University of New York Press.

Ahmida, A. A. (2005). *Forgotten Voices: Power and Agency in Colonial and Postcolonial Libya.* New York, NY: Routledge.

Alghafis, A. (1992). *Universities in Saudi Arabia: Their Role in Science, Technology and Development.* Lanham, MD: University Press of America.

Bowen, W. (2008). *The History of Saudi Arabia.* Westport, CT: Greenwood Press.

Chapin Metz, H. (Ed.). (1987). *Libya: A Country Study.* Washington: GPO for the Library of Congress.

Cobb, T. Compleat Lexical Tutor. http://www.lextutor.ca/. Retrieved January 5, 2009.

Comrie, B. (Ed.) (2007). *The World's Major Languages.* Oxford, UK: Oxford University Press.

Corson, D. (1997). The Learning and Use of Academic English Words. *Language Learning, 47*(4), 671-718.

Daller, H., Milton, J. and Treffers-Daller, J. (Eds.). (2007). *Modelling and Assessing Vocabulary Knowledge*. Cambridge, UK: Cambridge University Press.

Daller, H., Van Hout, R. and Treffers-Daller, J. (2003). Lexical Richness in the Spontaneous Speech of Bilinguals. *Applied Linguistics, 24*(2), 197-222.

Daun, H and Walford, G. (Eds.). (2004) *Educational Strategies Among Muslims in the Context of Globalization.* Leiden, The Netherlands: Komimklijke Brill NV.

El Aissati, A. (1993). Berber in Morocco and Algeria: Revival or Decay? *AILA Review 10*, 88-109

El-Hawat, A. (2006). Globalization, modernization and education in Libya. In R. Zia, *Globalization, Modernization and Education in Muslim Countries* (pp. 207-221). New York, NY: Nova Science Publishers, Inc.

Engber, C. (1995). The relationship of lexical proficiency to the quality of ESL compositions. *Journal of Second Language Writing, 4*(2), 139-155.

Fender, M. (2003). English word recognition and word integration skills of native Arabic- and Japanese-speaking learners of English as a second language. *Applied Psycholinguistics,* 24, 289-315.

Gadour, A. (2006). Libyan Children's Views on the Importance of School Factors Which Contributed to Their Emotional and Behavioural Difficulties. *School Psychology International, 27*(2), 171-191.

Gass, S. (1996). Second Language Acquisition and Linguistic Theory: The Role of Language Transfer. In: W Ritchie, & T. Bhatia (Eds.), *Handbook of Second Language Acquisition* (pp. 317-333). Academic Press.

Gede Astika, G. (1993). Analytical assessments of foreign students' writing. *RELC Journal, 24* (1), 61-70.

Griffin, R. (2006). *Education in the Muslim World: Different Perspectives.* Oxford, UK: Symposium Books.

Henriksen, B. (1999). Three dimensions of vocabulary development. *Studies in Second Language Acquisition, 21,* 303-317.

Hyland, K. (2003). *Second Language Writing.* New York, NY: Cambridge University Press.

Joffe, G. (Ed.) (1993). *North Africa: Nation, State and Region.* London, UK: Routledge.

Juffs, A. (in press). Second Language Acquisition of the Lexicon. In: W Ritchie, & T. Bhatia (Eds.), *The New Handbook of Second Language Acquisition.* Amsterdam, The Netherlands: Elsevier.

Khuwaileh, A and Al Shoumali, A. (2000) Writing errors: A study of the writing ability of Arab learners of academic English and Arabic at university. *Language, Culture and Curriculum (13),* 2, 174-183.

Klatter-Folmer, J., van Hout, R., Kolen, E. & Verhoeven, L. (2006). Language development in deaf children's interactions with deaf and hearing adults: a Dutch longitudinal study. *Journal of Deaf Studies and Deaf Education 11* (2), 238-251.

Laufer, B., Elder, C., Hill, K.& Congdon, P. (2004). Size and strength: do we need both to measure vocabulary knowledge? *Language Testing 21*(2), 202-226.

Laufer, B. & Nation, P. (1995). Vocabulary size and use: Lexical richness in L2 written production. *Applied Linguistics, 16*(3), 307-322.

Laufer, B. & Nation, P. (1999). A vocabulary-size test of controlled productive ability. *Language Testing, 16*(1), 33-51.

Mahmoud, A. (2000). Modern Standard Arabic vs. Non-Standard Arabic: Where do Arab students of EFL transfer from? *Language, Culture and Curriculum, 13*(2), 126-136.

Moroney, S. (1989). *Handbook to the Modern World: Africa, Volume One.* New York, NY: Facts on File.

Nelson, H. (1979). *Libya: A Country Study.* Washington DC: American University Publishers.

Prokop, M. (2003). Saudi Arabia: the politics of education. *International Affairs (79)* 1, 77-89.

Rake, A. (Ed.) (1999). *New African Yearbook 1999/2000.* London, UK:IC Publications. LTD.

Ranson, D. & Carlisle, S. (1996). Why do the French give their nouns gender? *The French Review* (70) 1, 1-12.

Read, J. (2004). Research in teaching vocabulary. *Annual Review of Applied Linguistics,* 24, 146-161.

Read, J. (1988). Measuring the vocabulary knowledge of second language learners. *RELC Journal, 19* (2), 12-25.

Reza Arabsheibani, G. and Manfor, L. (2001). Non-Linearities in Returns to Education in Libya. *Education Economics, 9*(2), 139-144.

Richards, J. (1976). The role of vocabulary teaching. *TESOL Quarterly* 10, 77-89.

Rukhsana Z. (Ed.) (2006). *Globalization, Modernization, and Education in Muslim Countries.* New York, NY: Nova Science Publishers

Ryan, A. and Meara, P. (1991). The case of the invisible vowels: Arabic speakers reading English words. *Reading in a Foreign Language, 7*(2), 531-540.

Santos, T. (1988). Professors' reactions to the academic writing of nonnative-speaking students. *TESOL Quarterly* 22*, 69-90.

Saudi Arabian Cultural Mission in the United States of America; Royal Embassy of Saudi Arabia. (1991). *Education in Saudi Arabia.*

Schmitt, N. (1999). The relationship between TOEFL vocabulary items and meaning, association, collocation and word-class knowledge. *Language Testing, 16* (2), 189-216.

Schmitt, N. (1995). A fresh approach to vocabulary: using a word knowledge framework. *RELC Journal* 26, 86-94.

Scott, M. and Tucker, G.R. (1974). Error analysis and English-language strategies of Arab students. *Language Learning, 24,* 69-97.

Suleiman, Y. (1996). *Language and Identity in the Middle East and North Africa*. Surrey, UK: Curzon Press.

Suleiman, Y. (1999). Language Education Policy--Arabic Speaking Countries. In B. Spolsky (Ed.), *Concise Encyclopedia of Educational Linguistics*. Amsterdam: Elsevier

Suleiman, Y. (2003). *The Arabic Language and National Identity*. Washington, D.C.: Georgetown University Press.

Teferra, D. and Altbach, P. (2004). African higher education: Challenges for the 21st century. *Higher Education, 47,* 21-50.

Thompson-Panos, K. and Thomas-Ružić, M. (1983). The least you should know about Arabic: Implications for the ESL writing instructor. *TESOL Quarterly 17*(4), 609-623.

Tidball, F. and Treffers-Daller, J. (2008). Analysing lexical richness in French learner language: what frequency lists and teacher judgments can tell us about basic and advanced words. *French Language Studies* 18, 299-313.

The World Almanac and Book of Facts 2003. (2003). World Almanac Education Group, New York, NY.

Vandewalle, D. (2006). *A History of Modern Libya*. Cambridge, UK: Cambridge University Press.

Zartman, I and Habeeb, W. (Eds.). (1993). *Polity and Society in Contemporary North Africa.* Boulder, CO: Westview Press, Inc.

Yoon, H and Hirvela, A.. (2004) ESL student attitudes toward corpus use in L2 writing. *Journal of Second Language Writing, 13* (4), 257-283.