

## **A Comparison of the Use of Lexical Words in Study Abroad and At Home Contexts\***

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This study compares lexical words used by two groups of students in different learning contexts: one studying English abroad (Study Abroad) and the other learning in Korea (At Home). While the study abroad (SA) group spent the fall semester of 2008 in a language exchange program at a university in the Philippines, students of the at home (AH) group were chosen from writing classes offered at a university in Korea during the same semester of the year. Written data from 54 students (27 in each group) were analyzed before and after the treatment period to discern differences between the groups in the use of the lexical words, and statistical analyses were carried out. The results of the study showed that compared to the AH learners, the SA students were found superior in their control over the words, producing higher frequencies of the words of more diverse types with a high type-token ratio in sentences. Also, the SA participants appeared to have attained greater lexical gains, generating longer sentences embedded with multisyllabic, less-redundant and more complex words after the treatment period. The findings of this study revealed a significant effect for the learning context on the use of the lexical words.

[Learning context/ study abroad/at home/ vocabulary/  
학습상황/해외연수/국내학습/어휘]

### **I. INTRODUCTION**

Every year an ever-increasing number of students go abroad for the purpose of participating in overseas language learning programs worldwide based on the widespread belief that studying abroad in foreign language programs will bring about a profound improvement in the target language skills. It is generally believed that classroom drills

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cannot substitute the experience of communicating in the target language in natural settings about real-life matters, and truly functional competence in a language requires spending time living in the country where that language is spoken (Brecht, Davidson & Ginsberg, 1995). This belief is expectedly proved by students who demonstrate significantly improved language skills upon return. This prevailing assumption has also given rise to numerous university-sponsored overseas language programs, and has been supported by recently emerging research on the effects of studying abroad on proficiency of a foreign language.

The context of learning has been identified as one of the crucial variables in foreign language acquisition (Freed, 1995), and the role of a study abroad context in foreign language learning has attracted interest in recent years. However, despite its practical relevance for students and program/policy decision makers of overseas language learning programs, empirical research that assesses the linguistic impact of studying abroad on foreign language learning is still in its infancy.

The purpose of the present study is to investigate the effects of learning context on the use of foreign language vocabulary. To achieve this goal, this study identifies and compares linguistic differences that might exist in lexical words used by two groups of students learning English in different contexts of learning: one group that spent a semester studying abroad (Study Abroad group) and the other learning in the classroom in Korea (At Home group).

Vocabulary plays a crucial role in language learning (Wilkins, 1972) and is the key to language comprehension and production. While considerable attempts have been made to examine linguistic benefits and overall language proficiency attainment in study abroad settings (DeKeyser, 1991; Freed, 1995, 1998; Guntermann, 1995; Huebner, 1995; Lafford, 1995, 2004; Lapkin, Hart & Swain, 1995; Marriott, 1995, etc.), not much attention has been given to the effects of a study abroad context on foreign language vocabulary acquisition. Moreover, there is an apparent lack of studies that make explicit comparisons of linguistic features between Korean students learning English in the home country and study abroad environments. It is hoped that this comparative study of the effects of learning context on the use of lexical words by two groups of Korean learners within those two learning contexts would enhance our understanding of the English vocabulary learning that takes place in overseas language programs, and provide practitioners in the English teaching profession with some useful insights into the preparation of English programs in Korea.

In this study the following research hypotheses will be addressed:

H1: There may be significant differences in the use of lexical (or content) words between learners in the at home and study abroad contexts after the treatment.

H2: There may be significant correlation between learning context and treatment period in lexical words used by the participants in the at home and study abroad contexts.

## II. LITERATURE REVIEW

### 1. Study Abroad Contexts

Many seem to take it for granted that students who study abroad in foreign language programs will become more competent in the use of the target language. This may be true. This is because students who go abroad actually participate in focused instruction in class as well as being immersed in the natural environment. They are thus able to utilize a variety of factors beneficial to language learning. Therefore, they have the chance to acquire many aspects of linguistic skills which are harder to attain in the home environment where language learning is restricted to the classroom (Marriott, 1995).

The awareness of the role of learning context in the second/foreign language acquisition (SLA) process emerged in the late '70s. In particular, the effects of a study abroad context on SLA have gained importance in recent years. Research on language learning in a study abroad context has found support for the positive role played by study abroad experience for language learning (Freed, 1995). While a number of studies concentrated on general issues of study abroad such as preparation for the study abroad experience, program assessment, student evaluations, general policy issues, etc., there have been relatively few empirical studies analyzing the impact of a study abroad context on students' language skills.

A collection of studies was devoted to making comparisons of the effects of learning context on various aspects of language learning between study abroad and at home contexts (Carroll, 1967; Cox & Freed, 1988; DeKeyser, 1991; Dyson, 1988; Freed, 1995, 1998; Guntermann, 1995; Huebner, 1995; Lafford, 1995, 2004; Lapkin, Hart & Swain, 1995). The first major analysis of the benefits of study abroad to foreign language skills was conducted by Carroll (1967) with 2782 college students majoring in French, German, Italian, Russian or Spanish at 203 institutions. Carroll found that students who spent time in study abroad situations were more fluent than those who did not. Similar findings were reported by Dyson (1988) who assessed the listening and speaking skills of 229 British students who had spent a year studying in France, Germany, or Spain. The results showed a significant improvement in both skills, particularly among the lower level students in the study. The analysis of the self-report data collected from 586 students in Meara's (1994) survey indicated that the majority of students felt that their oral and aural skills improved as a result of the year abroad experience, but not much progress was seen in reading and

writing skills. Cox and Freed (1988), who carried out a comparative study with 24 students of French as a foreign language, reported that the study abroad group demonstrated greater grammatical control and more native-like use. In the analysis of the linguistic benefits of studying abroad on speech fluency, Freed (1995) found that compared to the students learning in the home country environment, those studying abroad appeared to speak with greater ease and confidence, realized by a greater abundance of speech, spoken at a faster rate, and characterized, correspondingly, by fewer filled and unfilled pauses.

In an attempt to determine the degree of the effect of the study abroad experience on foreign language skills according to learners' proficiency levels, Lapkin, Hart and Swain (1995) conducted an investigation of the English-speaking students' exchange program in France. The central hypothesis posed in their study that the greatest linguistic gains are made by learners who are least proficient in the target language was proven true. In a later study, Freed (1998) drew similar conclusions that informal interaction in the target language outside the classroom is more beneficial to students at low levels of proficiency than to those at higher levels in overseas programs. Also, in a case study with 24 American students learning Japanese in the U.S and in Japan, Huebner (1995) suggested that overseas studying may be more appropriate and beneficial than previously speculated, and may be appropriate at the beginning levels of foreign language study.

In an inquiry of the influence of an overseas experience on how learners use their foreign language knowledge in actual communication and how learners compensate for gaps in their knowledge, DeKeyser (1991) discovered that the study abroad experience broadens the repertoire of communicative strategies of foreign language learners and makes them better conversationalists. This study also revealed that much of the knowledge can be gained by relative beginners in just one semester of a study abroad experience. Lafford (2004), who performed a similar comparative study on communication strategies used by American students learning Spanish within those two contexts, proposed that the study abroad context possibly causes growth in the learners' overall discursive abilities-relating narratives and generating more words per minute that contain densely packed information, such as nouns and adjectives.

Much of the research done in this field has reported similarities and differences in foreign language acquisition of students who study abroad as opposed to those whose learning is limited to the classroom in their home county. Many of these studies have provided support for the positive role played by study abroad experience for language learning. The results of these studies have contributed to our better understanding of language learning in a study abroad context. In addition, the findings of these studies may have important implications for foreign language teaching and learning in terms of replicating positive aspects of the study abroad experience in home learning environments.

## 2. Foreign Language Vocabulary

Vocabulary is an essential component in language, and thus plays a central role in language learning. However, vocabulary is by far the most vast and arduous element in foreign language learning. Foreign language learners not only should get acquainted with countless words but also should acquire how to use them in appropriate contexts. Indeed, the mastery of foreign language vocabulary seems to be a nearly endless task.

Vocabulary learning is considered to be a mental activity in which words are perceived, encoded and decoded. A number of studies (Arnaud & Bejoint, 1992; Bialystok & Sharwood Smith, 1985; Nation, 2001; Nation & Coady, 1988; Nation & Newton, 1997; Webb, 2008) have explored various aspects of foreign language vocabulary. Lord (1974) has insisted that thought is not merely expressed with words but comes into existence through words, and the relationship between thought and word is not a thing but a process. According to Palmberg (1990), vocabulary knowledge in a foreign language is defined as a continuum between the ability to make sense of a word and the ability to activate the word automatically for productive purposes. However, relatively little is known about how the learner's foreign language vocabulary is organized in his mental storage. Also, Rogers (1984) points out that no general principles are available for the learners which will enable them to anticipate the semantic range of a word in a foreign language.

With regard to the learner's mental lexicon of a foreign language, Meara (1984) argues that it consists of two major parts: a phonological or orthographical code that identifies the basic form of a word, and a semantic entry that specifies its meaning. Similarly, Bialystok and Sharwood Smith (1985) have identified two vital components of the learning and use of foreign language vocabulary: lexical knowledge and lexical control. Lexical knowledge is the way or form in which words are represented or stored in learners' mental lexicons, and lexical control is the processing system used by learners for controlling that knowledge during performance. By contrast, Palmberg (1990) refutes that the mental lexicon is a large master file where information about the spelling, phonology, syntax and semantics of each incorporated word is stored.

In his investigation of the learning of word meaning, Visser (1990) suggested that repetitive exposure to a word in meaningful contexts may be necessary before a learner can acquire definitional knowledge of a word meaning. A similar view is expressed by Nation (2001) that inferring the meaning of a word from the context is one of the effective ways to learn foreign language vocabulary. Nation and Coady (1988) have also stressed the enhancement of vocabulary knowledge through contextual learning.

Most of the studies of foreign language vocabulary so far seem to point to the fact that words are stored in learners' mental lexicons in different kinds of associative networks. If

this view is correct, there may be some ways that could be adopted in the teaching arena to boost foreign language learners' productive vocabulary skills.

### **III. RESEARCH DESIGN**

#### **1. Participants**

The 54 participants in this study were divided into two groups: one studying English abroad (Study Abroad group: 27) and the other learning English in Korea (At Home group: 27). All the participants, varying in their majors and grades, were relatively homogeneous in terms of age and English proficiency level. The participants ranged in age from 20 to 26 years. The students had been learning English for about 7-12 years, and their English proficiency levels were considered to be of lower intermediate.

##### **1) Study Abroad Group**

The study abroad (SA) group consisted of 16 male and 11 female students. The SA group spent the fall semester of 2008 in an intensive language program at H University in the Philippines, which established a collaborative relationship with N university. The students in the SA group took six hours of English classes a day, five days a week that were designed for the exchange students from N university. These students received formal instruction in English with four-hour writing practice in a week, apart from opportunities to use the language in their surrounding environment. None of the students in this group had spent any substantial time in an English-speaking country prior to participating in the exchange program in the Philippines.

##### **2) At Home Group**

For comparative purposes with the SA group, 27 students enrolled in writing classes at N university were chosen during the same semester of the year. The at home (AH) group was comprised of 10 male and 17 female students. All the students in this group had only learned English in the formal classroom context, and had similar amounts of prior formal experience with English. The AH students took two hours of writing classes a week, and the curriculum included explicit vocabulary and grammar teaching and writing practice. None of the AH participants had studied overseas before.

#### **2. Instruments**

### 1) Proficiency Test

A TOEIC type test was administered to the participants in both groups in order to assess their English proficiency levels. The test consisted of 30 questions in grammar, vocabulary and reading comprehension. Apart from the TOEIC type questions, the test also included some questions seeking their bio-data and background information. While the SA students were given the test just before leaving for the Philippines, the AH students took the test during the first week of the semester. The results of the test were: the SA group averaged 17.2 and the AH group 14.1 out of 30.

### 2) Writing Tests

In order to make a comparison of the use of lexical words between the two groups of learners before and after the treatment period, both groups were assigned to write two English compositions: one at the very beginning of the semester and one during the last week. The composition topics for the pretest and posttest were prepared with the consideration of the participants' English proficiency levels and were given to the students to help those who might not be able to produce a topic under examination conditions (see Appendix). The same topics were given to both groups for valid comparisons between the groups. The writing tests were administered at both sites under examination conditions. The data from the SA group were collected with the help of the faculty at the university in the Philippines.

## 3. Data Analysis

The written data gathered were analyzed to discern differences between the learners in the SA and AH contexts in overall lexical use and the use of four lexical (or content) words—nouns, verbs, adjectives, and adverbs—before and after the treatment period. As a first step of the analysis, the number of words and sentences used, the average length of sentences, the ratio of the lexical words to the total number of words, the number of lexical errors and their percentage to the content words were counted. Incorrect usage of the content words were identified and eliminated from the analysis.

All the lexical words in the corpus were then lemmatized by grouping together the different inflected forms of a lexeme such as '*-s/-es*' of nouns, '*-s, -ing, -ed*' of verbs, and '*-er, -est*' of adjectives. For instance, the word '*men*' was grouped together with '*man*', '*goes, went, going, gone*' with '*go*', and '*bigger, biggest*' with '*big*'. Also, in consideration of the low proficiency levels of the participants, such adjectives that have irregular comparative

and superlative forms as '*little, less, least*' were regarded as different words. In addition, nouns that can be used as proper and common nouns (e.g. the name '*Brown*' and the color '*brown*') were classified as different words (Hyun-sook Yoon, 2009). Some adverbs which are function words (e.g. '*then*' and '*why*') were excluded from the analysis.

Then, the number of tokens (or frequencies) and types of nouns, verbs, adjectives, and adverbs were counted, and a type-token ratio (TTR) of each content word was also measured. A TTR that shows lexical variation is commonly used to measure the diversity of vocabulary in the text. A high TTR means that various words were used, whereas a low TTR indicates the repetitive use of words in the text.

Next, statistical analyses were carried out using the SPSS version 15.0, with the alpha level set at 0.05, to examine means and standard deviations of the lexical words used by the groups in the pretest and posttest. Repeated measures MANCOVA tests were performed to check main effects and correlation interaction effects of multiple variables (tokens, types, TTR of the content words, the AH/SA groups, the pretest and posttest), and to verify whether there would be significant differences and/or significant interaction in the use of the lexical words between the two groups before and after the treatment period.

It should be noted here that this study was confined to examine only lexical words, and no attempts were made to examine grammar, the quality of writing, content or organization of the composition in this study. In addition, due to the relative homogeneity of the groups in terms of age, no demographic factors were singled out for analysis.

## IV. RESULTS AND DISCUSSION

### 1. Overall Lexical Use

An examination of the number of words and sentences used, the average length of sentences, the ratio of the lexical words to the total number of words, the number of lexical errors and their percentage to the content words was carried out in order to identify and compare differences in overall lexical use between the learners in the AH and SA contexts before and after the treatment period. Means and standard deviations of the two groups in the pretest and posttest are presented in Table 1.

As can be seen from the table, there was a sharp contrast in overall lexical use between the groups, with the SA students surpassing the AH participants in the pretest as well as in the posttest. The average length of compositions written by the SA students was longer than those produced by the AH group in both tests. Students in both groups increased the number of words in composition over time, and the SA group (201.0 words) used twice as many words as the AH group (99.8 words) in the posttest. There was a great difference in

the amount of increase in words, with the SA learners generating more (19.7 words) than the AH students (1.3 words) in their essays after the treatment period.

Table 1  
*Descriptive Statistics of Overall Lexical Use in the Pretest and Posttest*

Item	Group	Pretest		Posttest		Difference in means
		M	SD	M	SD	
Average length of essays (words)	AH	98.56	27.773	99.86	29.826	1.30
	SA	181.30	52.340	201.00	93.133	19.70
Number of sentences used	AH	12.67	3.648	10.48	3.479	-2.19
	SA	21.89	6.606	18.07	10.224	-3.81
Average length of sentences (words)	AH	8.01	1.731	9.77	2.130	1.76
	SA	8.50	2.154	11.58	2.122	3.08
Ratio of lexical words to total words (%)	AH	56.29	3.337	50.15	3.009	-6.14
	SA	57.94	1.345	51.28	1.482	-6.66
Number of errors in lexical words	AH	3.78	3.166	5.11	4.624	1.33
	SA	3.85	4.075	4.30	4.799	0.45
Ratio of errors to lexical words (%)	AH	6.38	4.402	9.26	4.842	2.88
	SA	3.52	3.126	4.02	3.859	0.5

N=27

The data also revealed that while the number of sentences in a composition decreased in both groups (AH: -2.19, SA: -3.81), the length of sentences increased from the pretest to the posttest (AH: 1.76, SA: 3.08). Although the average length was roughly the same prior to the treatment period (AH: 8.01, SA: 8.50 words), sentences produced by the SA students became longer (11.58 words) than those written by the AH group (9.77 words) in their post writing. Students in the SA group embedded more words in a sentence after the treatment period, indicating that the learners in the SA environment attained greater lexical fluency than those in the AH context over time.

In terms of the amount of content words used correctly in the composition, there was no distinguishable gap found between the two groups, and a reduction in the mean use of the content words was found at the end of the treatment period (SA: 57.94%→51.28%, AH: 56.29%→50.15%). A possible explanation for the decrease is that the students expanded the use of function words in the posttest. This is reflection of the students' increased awareness of grammatical elements over time. The reduction was greater in SA group (-6.66%) than that of the AH students (-6.14%).

On the other hand, the erroneous use of content words increased in the posttest. It might be partially due to the fact that the topic of the posttest was more difficult for the students to write about than that of the pretest. While the learners in the SA groups showed a 0.5%

increased error rate, their AH counterparts showed a 2.88% increase in the posttest. The SA students appeared to possess a better control of the words at the end of the treatment period.

## 2. The Use of the Lexical Words

An analysis of the use of the four lexical words (nouns, verbs, adjectives and adverbs) was made by measuring the number of tokens, the number of types and TTR of each word in the pretest and posttest. Table 2 presents means and standard deviations of token, type and TTR of each lexical word between the AH and SA groups. As is evident, the students in the SA context were found to have gained superior control over the words after the treatment period. In the case of nouns, the SA students used nearly twice as many nouns as the AH learners in the posttest. However, both groups showed a decrease in mean use of nouns over time, with the SA group making a greater reduction (-6.59) than the AH group (-4.96). One speculation for the decrease in noun use is related to the topic of the two tests, in that the pretest's topic, *'Introducing Myself'*, was likely to entail more use of proper nouns such as the writer's name, hometown, college name, country, etc., compared to that of the posttest, *'Vacation Plans'*. A difference was also seen in the range of noun types between the two groups: the SA group's mean (25.04) was far higher than that of the AH group (13.22) in the posttest. In addition, while the SA group's mean in noun types slightly increased (0.48), the AH group saw a decrease (-0.70) after the treatment period. On the other hand, the participants in both groups were able to raise their type-token ratio of nouns from the pretest to the posttest (AH: 9.64, SA: 10.07), indicating that the students in both contexts could cut repetitive use of nouns in their writings as their learning ensued.

The mean scores of verbs differed significantly between the two groups, with the SA group's mean (34.67) surpassing the AH group's mean (18.33) in the posttest. In particular, there was a big disparity between the groups, in that the SA group (1.30) increased its mean scores, whereas the AH group (-.19) decreased at the end of the treatment period. In terms of utilizing various types of verbs, neither group showed significant change in the mean scores (SA: .63, AH: .04) from the pretest to the posttest. However, both groups had an increase in the type-token ratio of verb at the end of the treatment period (SA: 3.38, AH: 2.65), meaning that learners in both contexts were able to reduce repetition in their post writing.

The analysis of the data involved in the adjective usage disclosed a notable gap between the two groups. SA students overall showed a larger vocabulary than the AH learners in the pretest (11.78, 5.70, respectively) as well as in the posttest (SA: 12.11, AH: 4.67). Also, while the SA participants increased the number of tokens, their AH counterparts reduced it from the pretest to the posttest. The same phenomenon occurred in the mean scores of

types, in that the SA group slightly increased from 8.63 to 9.22, but the AH group decreased from 4.96 to 3.70, which resulted in the biggest disparity in TTR mean between the AH (-8.46 decrease) and SA groups (5.66 increase) over time.

Table 2

*Descriptive Statistics of the Lexical Words in the Pretest and Posttest*

Word	Group	Pretest		Posttest		P	
		M	SD	M	SD		
Noun	Token	AH	27.30	5.455	22.33	6.610	.004
		SA	50.70	11.825	44.11	19.868	.144
	Type	AH	13.93	3.961	13.22	3.693	.503
		SA	24.56	6.699	25.04	10.253	.839
	TTR	AH	51.2364	11.08228	60.8817	11.63857	.003
		SA	48.7027	8.20979	58.7741	13.25344	.001
Verb	Token	AH	18.52	6.495	18.33	7.114	.921
		SA	33.37	8.962	34.67	16.295	.719
	Type	AH	11.78	4.200	11.81	3.763	.973
		SA	18.07	5.757	18.70	6.468	.707
	TTR	AH	64.0091	9.48259	66.6615	10.05352	.323
		SA	53.8760	7.97737	57.2588	12.56389	.243
Adjective	Token	AH	5.70	2.643	4.67	2.869	.173
		SA	11.78	5.918	12.11	9.048	.873
	Type	AH	4.96	2.192	3.70	2.284	.044
		SA	8.63	4.334	9.22	4.956	.749
	TTR	AH	88.6985	14.19943	80.2359	19.80768	.256
		SA	72.8676	15.05525	77.5332	18.49875	.152
Adverb	Token	AH	3.96	2.889	4.74	2.956	.333
		SA	9.19	4.472	12.19	7.855	.091
	Type	AH	3.67	2.760	3.96	2.534	.683
		SA	6.37	2.844	8.48	3.673	.022
	TTR	AH	94.8095	13.74162	83.7560	16.68805	.014
		SA	74.3434	17.77588	75.8196	16.44021	.753

N=27

The use of adverbs also revealed a marked difference between the participants in the two contexts. The SA group (12.19) averaged three times as many adverbs as the AH group (4.74) in the posttest. Also, both groups raised their mean of token and type of adverbs after the treatment period, but their increase rates differed noticeably in token (SA: 3.00, AH: .78), and type (SA: 2.11, AH: .30). In particular, changes in TTR mean scores made by the two groups showed the SA students' superiority in their lexical abilities to deal with

the words when compared to the AH learners; while the SA learners increased the adverb TTR means (1.47), the AH students dropped them (-11.05) in their post writing.

There was a great overall discrepancy between the groups. While the posttest means of token, type and TTR of all four words by the SA group increased except the noun token, TTR mean scores were consistently higher in the AH group. However, the AH students' higher mean scores in TTR were due to their lower number of tokens and types of the words, not their better control of diverse lexical elements. In addition, the standard deviation scores increased for both groups from the pretest to the posttest. That is, students in both groups became less homogeneous in their use of the words over time. Particularly, the SA group's greater increase in both means and standard deviations on the posttest indicates that they made greater improvement, but there were individual differences within the group.

### 3. Hypothesis Testing

Statistical analyses were carried out in order to examine whether the difference in the means of the lexical words between the two groups before and after the treatment period were significant. As there existed multiple variables in this analysis as well as a considerable difference in the use of the words between the two groups prior to the treatment period, repeated measures MANCOVA tests were performed to check the main effects and interaction effects of the independent variables (learning group and treatment period) on the dependent variables (token, type and TTR of noun, verb, adjective, and adverb). Before conducting MANCOVA, the significance of correlation of the dependent variables was checked using Bartlett's test of sphericity. The result of the test revealed a significant correlation ( $p=.000$ ) across the dependent variables, rejecting the null hypothesis that each variable is independent from each other, and thus there is no correlation.

Also, the homogeneity of the variance-covariance matrices for the dependent variables was examined, adopting Box's M test of equality of covariance to see if there would be multivariate normal distribution among the dependent variables. The result showed that Box's M test of homogeneity of the variance-covariance matrices was not significant ( $p=.362$ ), so the null hypothesis that the observed covariance matrices were equal was not rejected. As this did not violate the assumption of homogeneity of the dispersion matrices, multivariate tests were conducted under the four criteria on the treatment period and the three dependent variables (token, type, TTR), and the results of the tests are presented in Table 3.

Table 3 shows a significant main effect for time on the number of token ( $p=.002$ ) and type ( $p=.003$ ) and on the TTR ( $p=.034$ ) of the lexical words used by the two groups.

Therefore, the null hypothesis that there is no difference in token (type/TTR) of the lexical words from the pretest to the posttest was rejected. That is, frequencies, types, and a type-token ratio of each word used by the students in the two groups differed significantly over time. In other words, the participants in both learning contexts made changes in their use of the lexical words after the treatment period.

Table 3  
*Multivariate Tests of Significance*

Effect		Value	F	Hypothesis df	Error df	Sig.
<i>Dependent variable: Token</i>						
Pre/Posttest	Pillai's Trace	.584	13.496 <sup>a</sup>	5.000	48.000	.002
	Wilks' Lambda	.416	13.496 <sup>a</sup>	5.000	48.000	.002
	Hotelling's Trace	1.406	13.496 <sup>a</sup>	5.000	48.000	.002
	Roy's Largest Root	1.406	13.496 <sup>a</sup>	5.000	48.000	.002
<i>Dependent variable: Type</i>						
Pre/Posttest	Pillai's Trace	.437	7.439 <sup>a</sup>	5.000	48.000	.003
	Wilks' Lambda	.563	7.439 <sup>a</sup>	5.000	48.000	.003
	Hotelling's Trace	.775	7.439 <sup>a</sup>	5.000	48.000	.003
	Roy's Largest Root	.775	7.439 <sup>a</sup>	5.000	48.000	.003
<i>Dependent variable: TTR</i>						
Pre/Posttest	Pillai's Trace	.486	6.436 <sup>a</sup>	5.000	34.000	.034
	Wilks' Lambda	.514	6.436 <sup>a</sup>	5.000	34.000	.034
	Hotelling's Trace	.946	6.436 <sup>a</sup>	5.000	34.000	.034
	Roy's Largest Root	.946	6.436 <sup>a</sup>	5.000	34.000	.034

<sup>a</sup>= Exact Statistic,  $p < .05$

In order to check the main effects of the learning context on token, type, and TTR of each word used by the participants, tests of between-subjects effects were carried out. The results are exhibited in Table 4. The results reveal that there appears to be a significant main effect for the learning group on the number of tokens of nouns ( $p=.004$ ), verbs ( $p=.002$ ), adjectives ( $p=.018$ ), and adverbs ( $p=.003$ ). Thus, the null hypothesis that there is no difference in the number of tokens of nouns (verbs/adjectives/adverbs) between the groups can be rejected. Similarly, the main effect of the group on the number of types of all the words is significant ( $p < .05$ ). Hence, rejecting the null hypothesis that there is no difference in the number of types of nouns (verbs/adjectives/adverbs) between the groups, it can be maintained that there exists a statistically significant difference in the vocabulary of the students in the AH and SA contexts.

Table 4  
*Tests of Between-Subjects Effects*

Source	Measure	Time	Type III Sum of Squares	df	Mean Square	F	Sig.
<i>Dependent variable: Token</i>							
AH/SA	Noun	Linear	13781.481	1	13781.481	72.117	.004
	Verb	Linear	6564.481	1	6564.481	44.620	.002
	Adjective	Linear	1233.565	1	1233.565	29.324	.018
	Adverb	Linear	1083.000	1	1083.000	30.491	.003
Error	Noun	Linear	9937.185	52	191.100		
	Verb	Linear	7650.185	52	147.119		
	Adjective	Linear	2187.481	52	42.067		
	Adverb	Linear	1846.963	52	35.519		
<i>Dependent variable: Type</i>							
AH/SA	Noun	Linear	3400.333	1	3400.333	61.162	.001
	Verb	Linear	1173.481	1	1173.481	31.412	.020
	Adjective	Linear	452.231	1	452.231	25.569	.004
	Adverb	Linear	352.083	1	352.083	25.865	.006
Error	Noun	Linear	2890.963	52	55.595		
	Verb	Linear	1942.593	52	37.358		
	Adjective	Linear	919.704	52	17.687		
	Adverb	Linear	707.852	52	13.613		
<i>Dependent variable: TTR</i>							
AH/SA	Noun	Linear	112.766	1	112.766	.974	.033
	Verb	Linear	1631.756	1	1631.756	15.621	.041
	Adjective	Linear	1841.666	1	1841.666	8.291	.007
	Adverb	Linear	5966.712	1	5966.712	18.893	.025
Error	Noun	Linear	4398.858	38	115.759		
	Verb	Linear	3969.377	38	104.457		
	Adjective	Linear	8440.988	38	222.131		
	Adverb	Linear	12000.779	38	315.810		

$p < .05$

In addition, there is also a significant main effect for the group on the TTR of each word ( $p < .05$ ). Therefore, being able to reject the null hypothesis that there is no difference in TTR of noun (verb/adjective/adverb) between the two groups, the result of the data analysis satisfies the research hypothesis 1 that the use of the lexical words may significantly differ between learners in the AH and SA contexts after the treatment. As a whole, the students in the SA context appeared to make greater improvement in utilizing the content words.

Besides, interaction effects between learning group and treatment period on token, type, and TTR were checked by performing multivariate tests of significance across all the

independent and dependent variables together. Table 5 demonstrates that the interaction effects between group and treatment period together on token ( $p=.172$ ), type ( $p=.385$ ) and TTR ( $p=.536$ ) of the words are not significant. Thus, the research hypothesis 2 that there may be significant interaction between the AH and SA learning context and the treatment period on the use of the lexical words are not supported.

Table 5  
*Multivariate Tests of Significance*

Effect		Value	F	Hypothesis df	Error df	Sig.
<i>Dependent variable: Token</i>						
Pre/Posttest *	Pillai's Trace	.145	1.623 <sup>a</sup>	5.000	48.000	.172
AH/SA	Wilks' Lambda	.855	1.623 <sup>a</sup>	5.000	48.000	.172
	Hotelling's Trace	.169	1.623 <sup>a</sup>	5.000	48.000	.172
	Roy's Largest Root	.169	1.623 <sup>a</sup>	5.000	48.000	.172
<i>Dependent variable: Type</i>						
Pre/Posttest *	Pillai's Trace	.101	1.077 <sup>a</sup>	5.000	48.000	.385
AH/SA	Wilks' Lambda	.899	1.077 <sup>a</sup>	5.000	48.000	.385
	Hotelling's Trace	.112	1.077 <sup>a</sup>	5.000	48.000	.385
	Roy's Largest Root	.112	1.077 <sup>a</sup>	5.000	48.000	.385
<i>Dependent variable: TTR</i>						
Pre/Posttest *	Pillai's Trace	.109	.832 <sup>a</sup>	5.000	34.000	.536
AH/SA	Wilks' Lambda	.891	.832 <sup>a</sup>	5.000	34.000	.536
	Hotelling's Trace	.122	.832 <sup>a</sup>	5.000	34.000	.536
	Roy's Largest Root	.122	.832 <sup>a</sup>	5.000	34.000	.536

<sup>a</sup>= Exact Statistic,  $p < .05$

To sum up, all the results presented thus far revealed that the SA students appeared to have gained a better control of the lexical words, utilizing higher frequencies of the words of more diverse types with a high type-token ratio in sentences after the treatment period, when compared to the AH participants. Also, the results of the MANCOVA tests pointed out that the differences between the AH and SA groups in the use of the words were significant, and there was a significant effect for learning context on the use of the lexical words by the participants in this study. It seems obvious then that the learning contexts affected the learners' abilities to use words during the treatment period to different extents, and the SA learning context appeared to be more beneficial to facilitating growth in learners' lexical abilities.

## V. CONCLUSION

In an effort to explore the effects of the learning context on foreign language vocabulary learning, this study compared similarities and differences in the use of the four lexical words - nouns, verbs, adjectives, and adverbs - between the two groups of students in the study abroad (SA) and at home (AH) learning environments after a semester-long treatment period. The results of the study showed that there were differences between the two groups in their use of the words after the treatment period, and the statistical analyses carried out provided evidence that the differences between the groups were significant. The participants in the SA context appeared to have attained greater improvement in their vocabulary use, being superior to their AH counterparts in generating higher frequencies of words of more diverse types with a high type-token ratio in sentences. There were also qualitative differences observed in lexical use between the groups. In comparison with the AH learners, the SA students' ideas were overall better expressed in longer sentences embedded with multisyllabic, less-redundant and more complex words in their post writing.

The findings of this study revealed a significant effect of the learning context on the use of the lexical words. This indicates that the learning context plays a role in developing the foreign language vocabulary repertoire, and the SA context seems to provide more advantages in facilitating growth in learners' lexical abilities than the AH context. It is likely that the SA participants' greater gains in vocabulary can be attributed to their experience in a SA program where learners are provided with extensive amounts of language input and opportunities to use the language in real-world environments. Also, being in an environment where one can get many things done in the foreign language that could not be accomplished in the native language is a constant motivational boost (DeKeyser, 1991) that could be one of the reasons for improvement.

Although this study has attempted to shed some light on the effect of learning context on foreign language vocabulary used by AH and SA learners, there are some limitations in the present study by its restriction of measurement for learners' lexical breadth, and some wide discrepancy between the two learning contexts in the number of English classes the participants took. The findings of this study will be further enhanced by subsequent studies that investigate differences between learners in AH and SA contexts in other aspects such as grammatical and/or morphological accuracy and syntactic complexity, or in other language skills. Also, replication of this study in future studies that makes comparisons among learners in the AH environment and in different SA settings (e.g. in the native speech and non-native speech communities) may yield additional information and different insights into the role of learning context on second/foreign language development.

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## APPENDIX

### Proficiency Test

#### A. Participants' background information

1. Name: \_\_\_\_\_

2. Gender: M / F

3. Age: \_\_\_\_\_

4. Year: \_\_\_\_\_

5. Major: \_\_\_\_\_

6. How long have you been learning English? \_\_\_\_\_ years  
 7. Have you ever lived or studied abroad before? YES / No  
 8. If 'YES', then how long did you live or study abroad? \_\_\_\_\_ years \_\_\_\_\_ months

B. Directions: Questions 1-10 are incomplete sentences. Four words or phrases, marked (A), (B), (C), (D), are given beneath each sentence. You are to choose the one that best completes the sentence.

C. Directions: Questions 11-20 each sentence has four words or phrases underlined. The four underlined parts of the sentence are marked (A), (B), (C), (D). You are to identify the one underlined word or phrase that should be corrected or rewritten.

D. Directions: Questions 21-30 are based on a variety of reading material. You are to choose the one best answer, (A), (B), (C), (D), to each question.

#### Pretest

Year: \_\_\_\_\_ Major: \_\_\_\_\_ Name: \_\_\_\_\_

*Write a composition on "Introducing Myself"*

#### Posttest

Year: \_\_\_\_\_ Major: \_\_\_\_\_ Name: \_\_\_\_\_

*Write a composition on "Vacation Plans"*

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