Implicit Vs. Explicit Vocabulary Learning: Which Approach Serves Long-term Recall Better?

MOSTAFA MIRZAII
Iran University of Science and Technology
Tehran, Iran
mustafa.mirzaei@yahoo.com

ABSTRACT

The present study compared the effectiveness of Implicit Vocabulary Learning (IVL) through Extensive Reading with that of Explicit Vocabulary Learning (EVL) through activities requiring Deep-level Cognitive Processing on the long-term vocabulary recall of 62 Iranian intermediate EFL learners. The research method was quasi-experimental; the participants under investigation were divided into two groups: the IVL and the EVL, comprising 30 and 32 eligible participants, respectively. Prior to the treatment, both groups underwent a proficiency test namely, Preliminary English Test (PET), to ensure homogeneity among the participants. In the course of the study, the IVL participants did regular 20-minute in-class extensive reading. The EVL participants, on the other hand, were taught new vocabulary using activities which demanded deep-level cognitive processing. To compare the achievements of the two groups, a pre-test prior to the treatment and a post-test after the treatment were administered, both in the form of a standardized vocabulary test with three subtests meaning, preposition and collocation. Data analyses indicated significant improvement of both groups on the post-test. Concerning the subtests, nevertheless, while the EVL outperformed the IVL on meaning and preposition, the IVL did marginally better on the subtest of collocation.

Keywords: implicit vocabulary learning; explicit vocabulary learning; extensive reading; deep-level cognitive processing; long-term vocabulary recall

INTRODUCTION

Lexical competence is an integral component of communicative competence, and learning vocabulary an indispensable aspect of language acquisition, be it first, second, or foreign. It follows that improvement in learning a language is mainly achieved and manifestly observable through acquiring vocabulary, as opposed to grammar whose learning might not be as noticeable in language learners' level of achievement. By the same token, Wilkins (1976, cited in Thornbury 2002, p.13) contends that "without grammar very little can be conveyed, without vocabulary nothing can be conveyed", hence the crucial role of vocabulary in language learning. Similarly, Coady and Huckin (1997, cited in Decarrico 1999)) argue that "there is now general agreement among vocabulary specialists that lexical competence is at the very heart of communicative competence, the ability to communicate successfully and appropriately" (285).

Owing to this perceived significance, specifically in the past few decades, an expanding body of research studies as well as pedagogical materials have emerged, most of which having attempted to address key questions of particular interest to language practitioners such as which vocabulary to teach, how to teach vocabulary, which strategies to utilize to teach vocabulary, and which aspect(s)/component(s) of vocabulary knowledge to emphasize while teaching vocabulary (Gairns & Redman 1986, Nation 1990, Schmitt 2000, Ellis 1994). As such, a salient feature of the process of vocabulary acquisition seems not to have been adequately researched. This apparently neglected feature is known as vocabulary recall. In other words, in order for language learners to achieve the desirable outcomes, they

need to not only be presented with the right vocabulary items, in the right way, and learn them well but to later remember them as well. Therefore, remembering is an important aspect of vocabulary learning.

Closely connected to the issue of vocabulary recall is the concept of *forgetting*. As research suggests, *forgetting*, which is a naturally occurring process succeeding acquisition, tends to considerably impact both the quality and quantity of vocabulary recall (Stevick 1996, Aitchison 1994, Singleton 1999). In fact, the great challenge for language learners is to transform newly learnt material from short-term store to long-term memory. Failure to integrate recently presented vocabulary into long-term memory can be termed *forgetting*. While this tends to be rapid at first, it gradually slows down. Research indicates that up to 80 percent of material is forgotten within 24 hours of initial acquisition, but this rate fades away at subsequent stages of acquisition (Thornbury 2000). But, why does forgetting occur?

Traditionally, there are two theories of forgetting- namely, decay theory and interference theory. Whereas the decay theory holds that forgetting is the simple ramification of not using information, and thereby fading away from memory over time, the interference theory states that forgetting is not a loss of information from memory but simply a failure to retrieve information. It has long been accepted that information decays rapidly from short-term memory when attention is withdrawn; however, decay theory has been less influential in accounting for forgetting from long-term memory (Whitney 1998). Whitney (1998:99), therefore, contends that "much of the forgetting from long-term memory occurs when some items in memory interfere with our ability to retrieve other items". Not dissimilar to this contention, Thornbury (2002: 27) states that "forgetting may be caused by both interference from subsequent learning and by insufficient recycling". A central debate emerging from these theories and arguments deals with the effectiveness of vocabulary learning and recall, and consequently with the approach to teaching vocabulary.

Conventionally, the related literature proposes either an explicit or an implicit approach to the teaching and learning of vocabulary. The former, i.e., explicit vocabulary learning, engages learners in activities that focus attention primarily on vocabulary. Several key principles which can help guide teachers in deciding basic questions of what to teach and how to teach include integrating new vocabulary with old, facilitating imaging, using a variety of techniques, providing a number of encounters with a word, encouraging independent learning strategies, and promoting a deep level of processing (Sokmen 1997). Of these, promoting a deep level of cognitive processing seems to be of paramount importance considering the aforementioned theories of forgetting. In other words, the importance of promoting a deep level of processing is to transfer information from short-term memory to long-term memory, which has almost unlimited storage capacity. Therefore, it is held that the more learners manipulate and think about a word, the more likely it is that the word will be transferred into long-term memory. Research suggests that efficient learning of vocabulary is an incremental process, one that requires meaningful recurring encounters with a word at successive levels of difficulty over time (Decarrico, 1999).

On the other hand, implicit vocabulary learning, also known as incidental vocabulary learning, occurs when the mind is concentrated elsewhere, such as on comprehending a written text or understanding spoken material. One of the premises of implicit vocabulary learning is that new words should not be presented in isolation and should not be learnt by mere rote memorization. It follows that new vocabulary items should be presented in contexts rich enough to provide clues to meaning and that learners should be given multiple exposure to items they are supposed to learn (Nation 1990). Lack of exposure is a common problem facing language learners; a good way to combat this problem is to expose learners to extensive reading which offers broad exposure to the target language and is second only to acquiring the language by living among its native speakers (Nuttall 1982). Extensive reading

is believed to have the power to enhance proficiency generally and to automate word recognition in particular (Grabe 1991). Furthermore, input is meaningful and engaging because texts are chosen by readers in accordance with their preferences and so provide a medium for attaining individual pleasure and enlightenment (Day & Bamford 1998, Renandya & Jacobs 2002).

Decarrico (1999) suggests that extensive reading can be used with learners at all levels of language proficiency. For beginning learners, graded readers are probably the best access to a large amount of input. For intermediate learners just on the threshold of reading authentic texts, it may be appropriate to read numerous authentic texts, but all on the same topic, commonly termed narrow reading, so that the texts will provide multiple exposure as topic-specific vocabulary is repeated throughout. Advanced learners, on the other hand, should be encouraged to read a wide variety of authentic texts, commonly known as wide reading. Schmitt (2000, cited in Decaricco 1999)) points out that this type of exposure is of great significance since "meeting a word in different contexts expands what is known about it, thus improving quality of knowledge, with additional instances of exposure helping to consolidate it in memory" (290).

With respect to the distinction which is made in the literature between implicit and explicit vocabulary learning, a common view in vocabulary studies is that the majority of words that one knows, and that beyond a certain level of proficiency in a second or foreign language, vocabulary learning is more likely to be mainly implicit, that is to say, incidental. Various researchers have concluded that learners should be given explicit instruction and practice in the first two or three thousand high-frequency words, while beyond this level most low-frequency words will be learned incidentally through reading or listening (Schmitt & McCarthy 1997, Nation 2001, Carter & McCarthy 1988, Carter 1998). The reason that explicit learning is thought to be necessary in the initial stages is that, unless a high percentage of words on a page are known, it is very difficult to guess the meaning of new words from context. A 2000 to 3000 word base is considered a minimum "threshold" that enables incidental learning to take place when reading authentic texts.

To date, a large number of research studies have attempted to investigate the effectiveness of implicit and explicit learning strategies on vocabulary learning (Waring & Takaki 2003, Nation 2001, Schmitt 2008, Paribakht & Wesche 1997). However, almost no research study has aimed at shedding light on the effectiveness of these two approaches, implicit vocabulary learning (IVL) and explicit vocabulary learning (EVL) on different components of vocabulary knowledge, i.e. meaning, preposition, and collocation. Due to the significance of these components of vocabulary knowledge and the dearth of research studies in this area, especially with respect to the employment of activities requiring deep-level cognitive processing (as a means of explicit learning) and extensive reading (as a means of implicit learning), the present study had as its aim the investigation of the following research hypotheses:

$H_0(1)$: The vocabulary recall of the participants acquiring vocabulary through implicit learning does not differ statistically significantly on the pre-test and post-test.
$H_0(2)$: The vocabulary recall of the participants acquiring vocabulary through explicit learning does not differ statistically significantly on the pre-test and post-test.
$H_0(3)$: The meaning recall, as measured on the post-test, of the participants acquiring vocabulary through explicit learning does not differ statistically significantly from that of the participants acquiring vocabulary through implicit learning.
$H_0(4)$: The preposition recall, as measured on the post-test, of the participants acquiring vocabulary through explicit learning does not differ statistically

significantly from that of the participants acquiring vocabulary through implicit learning.

$H_0(5)$: The collocation recall, as measured on the post-test, of the participants acquiring vocabulary through explicit learning does not differ statistically significantly from that of the participants acquiring vocabulary through implicit learning.

$H_0(6)$: The vocabulary recall, as measured on the post-test, of the participants acquiring vocabulary through explicit learning does not differ statistically significantly from that of the participants acquiring vocabulary through implicit learning.

RESEARCH DESIGN

PARTICIPANTS

The participants of the study were selected from among early intermediate EFL learners studying at one of the branches of Kish Institute of Science and Technology in Iran. They varied in age from 17 to 32 years with an average age of 23. The type of sampling employed in the study was cluster sampling, since the unit of selection did not involve individuals, but a group of individuals being selected from larger groups, including all intermediate EFL learners, studying in all branches of the institute, to smaller ones. The whole selected sample included 87 intermediate EFL male learners. Upon the administration of the homogeneity test, those learners whose scores were within one standard deviation above and below the mean score were selected as the eligible participants of the study. As the result of this procedure, 62 learners were included in the study. They took part in two separate groups: one taken as the implicit vocabulary learning (IVL) consisting of 30 students and the other, the explicit vocabulary learning (EVL), comprising 323 students.

INSTRUMENTATION

The instruments utilized in the present study included (1) a validated standardised test of language proficiency, namely, Preliminary English Test (PET), as a means of homogenising the participants with respect to their level of language proficiency, and (2) a validated standardised test of vocabulary, utilised both as the pre-test and the post-test.

HOMOGENEITY TEST

The Preliminary English Test is planned, prepared and validated by Cambridge ESOL Examinations center, thereby enjoying high degrees of reliability, validity, and practicality. The test is composed of two papers, the first is titled Reading and Writing and the second Listening. The whole test consists of 75 items with the first paper containing 50 items, and the second paper, 25 items, with a time allocation of 90 and 30 minutes for each paper, respectively.

VOCABULARY TEST

The Teacher's Resource Book of Total English (2005), published by Pearson Longman, includes a Test Section which offers validated tests of vocabulary with three subtests namely, meaning, preposition, and collocation. These tests are mainly intended to be used as achievement measures since they are composed of vocabulary meant to be taught and learnt

at specific levels. To arrive at a measure to be utilised both as the pre-test and as the post-test, two of these tests were merged and the unified version was administered once prior to the treatment (the pre-test) and once following the treatment (the post-test).

PROCEDURE

The participants of the study were selected from among intermediate EFL learners studying at one of the branches of Kish Institute of Science and Technology. The classes under study met for 10-hour sessions a week for a total of 5 weeks, with a total of 21 sessions on the whole. In total, 18 sessions were devoted to the treatment, since the first and the last two sessions were taken to administer the pre-test and the post-test. Moreover, the whole selected sample included 87 intermediate EFL male learners. In the first session of the class, all the participants took the proficiency test. Following the administration of the homogeneity test, those learners whose scores were within one standard deviation above and below the mean score were selected as the eligible participants of the study. As the result of this procedure, 62 students were included in the study.

The objective of the course was to provide the learners with a balanced mix of skills work as well as instruction on the language sub-skills, including grammar, pronunciation and vocabulary. The IVL participants were provided with a bank of authentic reading materials from which they selected their favorite ones and which they read in the classroom within a time limit of 20 minutes, once every two sessions. To ensure that the participants were adequately exposed to the three components of vocabulary knowledge, on the one hand, and to the specific instances present in the pre and posttests, on the other, the researcher modified the tests by removing and adding a number of vocabulary items. Having done so, it was guaranteed that participants in both groups IVL and EVL, would be exposed to the same vocabulary items through two different approaches. While reading their favorite texts, the researcher moved around the classroom and provided the participants with help if called for. The participants had been told that this kind of reading would be done mainly for pleasure.

The participants in the EVL, on the other hand, were taught vocabulary through activities which required deep-level cognitive processing. This was in keeping with Thornbury (2002:25) who proposes that 'the more decisions the learner makes about a word, and the more cognitively demanding these decisions, the better the word is remembered". In so doing, the participants were provided with various activity types: matching, sorting, ranking, grouping, sentence completion, and translation. These activity types were integrated within the main activities of the EVL group. In the majority of activities, all the three components of the vocabulary knowledge were worked on, at successive levels of difficulty.

RESULTS AND DISCUSSION

To determine the existence of any statistically significant difference between the language proficiency levels of the IVL and EVL participants, on the basis of their mean scores on the Preliminary English Test (homogeneity test), an ANOVA F-test was run. Table 1 shows the results of the F-test.

TABLE 1. IVL and EVL homogeneity test means, variance, etc.

Group	Mean	Standard Deviation	Variance	N
IVL	62.11	6.27	39.31	30
EVL	61.31	6.40	40.96	32

The results of the F-test comparison is indicated in Table 2.

TABLE 2. F-test result: IVL and EVL mean scores comparisons

$F_{observed}$	df	$F_{critical}$
1.61	1 & 60	4.00

As Table 2 indicates, at the 0.05 level of significance and at 1 and 60 degrees of freedom, the $F_{observed}$ value was 1.61. Since this was lower than the critical value of F, the statistical test proved that there was no statistically significant difference between the proficiency levels of the IVL and EVL participants at the beginning of the study, prior to the treatment. Following this, the means of the scores of IVL and EVL on the pre-test were compared to determine if they were the same or different, regarding their vocabulary knowledge, before the study began (Table 3).

TABLE 3. IVL and EVL mean scores difference and t-test on pre-test

IVL	EVL	df	$T_{observed}$	$T_{critical}$
57.00	54.33	1 & 60	0.83	2.00

As can be seen in Table 3, at the 0.05 level of significance and at 1 and 60 degrees of freedom, there was no statistically significant difference between the mean scores of the two groups before the study began and the two groups started with quite the same knowledge of vocabulary. In order to determine how much progress each group had made in the interval between the pre- and post-test, first descriptive statistics and next two matched t-tests were run. Tables 4 and 5 show descriptive statistics for the results of the pre-test and post-test for the IVL.

TABLE 4. Results of descriptive statistics of pre-test for IVL

Statistics	Whole Test	Preposition	Meaning	Collocation
K	90	30	30	30
X	57.00	22.12	17.54	17.34
SD	12.11	2.31	5.43	7.11
Range	27	11	14	16
Skewness	0.46	0.33	-0.11	0.34
Kurtosis	-0.89	-0.42	-0.13	-0.24

TABLE 5. Results of descriptive statistics of post-test for IVL

Statistics	Whole Test	Preposition	Meaning	Collocation
K	90	30	30	30
X	63.11	23.25	17.25	22.61
SD	13.21	2.89	6.18	6.46
Range	29	13	16	15
Skewness	0.69	0.42	-0.09	0. 4
Kurtosis	-0.66	0.31	-0.11	-0.12

As the tables indicate, the mean score of the pre-test for the IVL was 57.00, and that of the post-test was 63.11. The standard deviation for the pre-test was 12.11, and that of the post-test 13.21. Moreover, the range of the scores of the pre-test was 27, while that of the post-test was 29. In addition, the distribution of scores of both the pre-test and post-test was positively skewed, the latter was more positively skewed though (0.46 versus 0.69). Finally,

the scores distribution obtained from both tests was almost flat (-0.89 and -0.66). In regard to the subtests of the pre-test and the post-test, apart from meaning, in the two other cases, the means of the components of the post-test revealed some increase in comparison with the pre-test. Considering preposition, for instance, the mean score for the pre-test was 22.12 and that of the post-test 23.25. Regarding collocation, the mean score of the post-test was 22.61, whereas that of the pre-test was 17.34.

The same statistical procedures were taken for the EVL, the results of which were quite different in this case. Following are Table 6 and Table 7 which indicate descriptive statistics for the results of the pre-test and post-test for the ELV.

TABLE 6. Results of descriptive statistics of pre-test for EVL

Statistics	Whole Test	Preposition	Meaning	Collocation
K	90	30	30	30
X	54.33	20.31	16.13	17.89
SD	13.12	3.69	5.19	7.46
Range	35	12	17	15
Skewness	-1.22	-0.81	0.20	-0. 13
Kurtosis	3.46	1.57	0.63	-0.51

TABLE 7. Results of descriptive statistics of post-test for EVL

Statistics	Whole Test	Preposition	Meaning	Collocation
K	90	30	30	30
X	74.14	25.16	27.24	21.74
SD	8.12	2.48	3.13	4.71
Range	19	11	14	12
Skewness	-0.78	-0.51	0.18	-0.49
Kurtosis	1.28	0.69	1.20	0.61

As can be observed in these tables, the mean score for the pre-test was 54.33, while that of the post-test was 74.14. Apparently, there was a relatively large difference between the standard deviation of the two tests: 13.12 in the pre-test and 8.12 in the case of the post-test. This indicates that the participants performed more homogeneously on the post-test. This claim can be supported taking into account the difference between the range of the scores on the two tests (35 for the pre-test and 19 for the post-test). Moreover, the scores distribution on the pre- and post-tests was negatively skewed (-1.22 and -0.78), that of the post-test tended to be more normal. Furthermore, the distribution of the scores of both tests was peaked (3.64 and 1.28). That of the post-test, nevertheless, seemed to be much closer to a normal distribution.

INVESTIGATION OF NULL HYPOTHESIS 1

To determine if the vocabulary recall of the participants acquiring vocabulary through implicit learning differed statistically significantly on the pre-test and post-test, a matched t-test was run on the pre- and post-test scores of the IVL. Table 8 indicates the results.

TABLE 8. Matched t-test result: IVL mean scores comparisons

$T_{observed}$	df	$T_{critical}$
2.64	1 & 29	2.05

As Table 8 indicates, at the 0.05 level of significance and at 1 and 29 degrees of freedom, the $T_{observed}$ value was 2.64. Since this was greater than the critical value of T, the statistical test proved that the difference between the level of vocabulary knowledge of the IVL participants on the pre- and post-test mean scores was statistically significant. This finding was not in conformity with the claim of Null Hypothesis 1. This hypothesis was therefore statistically rejected.

INVESTIGATION OF NULL HYPOTHESIS 2

To determine if the vocabulary recall of the participants acquiring vocabulary through explicit learning differed statistically significantly on the pre-test and post-test, a matched t-test was run on the pre- and post-test scores of the EVL. Table 9 indicates the results.

TABLE 9. Matched t-test result: EVL mean scores comparisons

$T_{observed}$	df	$T_{critical}$
10.53	1 & 31	2.04

As Table 9 shows, at the 0.05 level of significance and at 1 and 31 degrees of freedom, the $T_{observed}$ value was 10.53. Since this was considerably greater than the critical value of T, the statistical test proved that the difference between the level of vocabulary knowledge of the EVL participants on the pre- and post-test mean scores was statistically significant, hence the rejection of Null Hypothesis 2.

INVESTIGATION OF NULL HYPOTHESIS 3

In order to investigate whether the meaning recall, as measured on the post-test, of the participants acquiring vocabulary through explicit learning differed statistically significantly from that of the participants acquiring vocabulary through implicit learning, an independent t-test was run on the post-test scores of the meaning subtest of the IVL and the EVL (see Table 10 below).

TABLE 10. IVL and EVL meaning mean scores difference and t-test on post-test

IVL	EVL	df	$T_{observed}$	$T_{critical}$
17.25	27.24	1 & 60	7.99	2.00

As can be observed in this table, the $T_{observed}$ value was greater than the value of $T_{critical}$ at the 0.05 level of significance and at 1 and 60 degrees of freedom, hence the existence of a statistically significant difference between the two values. Since this finding was against the claim of Null Hypothesis 3, this hypothesis was statistically rejected.

INVESTIGATION OF NULL HYPOTHESIS 4

In order to investigate whether the preposition recall, as measured on the post-test, of the participants acquiring vocabulary through explicit learning differed statistically significantly from that of the participants acquiring vocabulary through implicit learning, an independent t-test was run on the post-test scores of the preposition subtest of the IVL and the EVL (see Table 11 below).

TABLE 11. IVL and EVL preposition mean scores difference and t-test on post-test

IVL	EVL	df	$T_{observed}$	$T_{critical}$
23.25	25.16	1 & 60	4.06	2.00

As the table indicates, at the 0.05 level of significance and at 1 and 60 degrees of freedom, the $T_{observed}$ value was 4.06 and the value of the $T_{critical}$ 2.00. Thus, the difference proved to be statistically significant, the fact of which rendered Null Hypothesis 4 refuted.

INVESTIGATION OF NULL HYPOTHESIS 5

In order to investigate whether the collocation recall, as measured on the post-test, of the participants acquiring vocabulary through explicit learning differed statistically significantly from that of the participants acquiring vocabulary through implicit learning, an independent t-test was run on the post-test scores of the collocation subtest of the IVL and the EVL (see Table 12 below).

TABLE 12. IVL and EVL collocation mean scores difference and t-test on post-test

IVL	EVL	df	$T_{observed}$	$T_{critical}$
22.61	21.74	1 & 60	0.42	2.00

As Table 12 indicates, at the 0.05 level of significance and at 1 and 60 degrees of freedom, the $T_{observed}$ value was 0.42. Since this was lower than the critical value of T, the statistical test proved that the difference between the level of collocation recall of the IVL participants and that of the EVL participants on the post-test was not statistically significant. Therefore, Null Hypothesis 5 was statistically confirmed.

INVESTIGATION OF NULL HYPOTHESIS 6

In order to investigate whether the vocabulary recall, as measured on the post-test, of the participants acquiring vocabulary through explicit learning differed statistically significantly from that of the participants acquiring vocabulary through implicit learning, an independent t-test was run on the post-test scores of the IVL and the EVL. Table 13 shows the results of the independent t-test for the performance of the two groups on the post-test.

TABLE 13. IVL and EVL mean scores difference and t-test on post-test

IVL	EVL	df	$T_{observed}$	$T_{critical}$
63.11	74.14	1 & 60	3.92	2.00

As Table 13 indicates, the $T_{observed}$ value for the performance of the two groups on the post-test was 3.92 which, at 1 and 60 degrees of freedom, was greater than the critical value of T at 0.05 level of significance, hence the rejection of Null Hypothesis 6. Thus, it is concluded that EVL significantly performed better than IVL on the post-test. In other words, the participants in the explicit vocabulary learning group who explicitly received instruction on vocabulary through activities requiring deep-level cognitive processing made more progress in their vocabulary knowledge. Since the two groups of participants had exactly the same classes during the interval between the pre-test and post-test, it can be claimed that the difference in their performance on the post-test was due to the fact that the EVL was taught vocabulary explicitly.

Since the means of the participants in almost all the components showed an increase from the pre-test to the post-test, it can be claimed that both implicit and explicit learning had a positive effect on the learning and recall of vocabulary. Explicit vocabulary learning, nevertheless, proved to be more effective regarding the components of meaning and preposition recall as well as the whole concept of vocabulary recall. In the case of collocation recall, although the IVL participants performed marginally better than the EVL participants

on the corresponding subtest, the difference was not significant. Therefore, it can be argued that language learners tend to benefit more from explicit learning regarding the learning of vocabulary in general, and the learning and recall of preposition and word meaning in specific.

CONCLUSIONS AND IMPLICATIONS

This study investigated the effect of explicit and implicit learning approaches on the learning and recall of three components of vocabulary knowledge namely, meaning, preposition and collocation. In the course of the study, the IVL participants did in-class extensive reading using and selecting from among the materials they had been provided with. The EVL participants, on the other hand, were taught vocabulary explicitly working on activities requiring deep-level cognitive processing. The results of the study support the claim that the employment of extensive reading as a means of implicit learning can facilitate to a considerable extent the learning of the formal features of language (Welch 1997, Day & Bamford 1998, Green 2005). More specifically, these findings echo, to some extent, the earlier findings of Zimmerman (1997) who proposed that reading extensively could lead to better achievements in learning vocabulary. The results of this study are also in line with reading research which has shown that incidental vocabulary acquisition also occurs in the L2, although only with relatively small gains and after repeated exposure (Waring & Takaki 2003). However, the results of this study contradict the findings of Krashen (1989) who contend that incidental vocabulary learning, or 'acquisition', achieves better results than intentional or explicit vocabulary learning. Considering explicit vocabulary learning, the results of this study were in conformity with the claims made by Dicarrico (1999) and Thornbury (2002) who contend that explicit learning could lead to better results if it engaged learners in activities requiring deep-level cognitive processing.

In light of the results of the present study, a number of pedagogical implications were arrived at and are briefly discussed below. First and foremost, it should be noted that incidental vocabulary learning through reading and listening is not only possible but also plausible for vocabulary development. However, this strategy seems to be more effective for native speakers and intermediate to advanced L2 learners who already have at least a good command of the language skills such as reading and listening. Therefore, language practitioners wishing to integrate extensive reading or listening in their classrooms as a means of enhancing language pedagogy in general, and vocabulary learning in specific, should bear in mind the fact that this is the most appropriately achieved in intermediate level classes above.

However, regarding the shortcomings of implicit learning, Nation (2001:232) notes that "many L2 learners do not experience the conditions that are needed for this kind of learning to occur". For example, where learners have little target language input, through either listening or reading, and insufficient reading or listening materials at their disposal, an exclusive implicit vocabulary learning approach will be stifling regarding the language development. Thus, he claims that activities focusing on the word itself (explicit learning activities), are essential for successful L2 vocabulary acquisition. In so doing, teachers of English in many foreign language contexts combine explicit and implicit approaches. In fact there is already evidence in recent studies of second language learners that a combined approach is superior to incidental vocabulary learning alone (Paribakht & Wesche 1997, Schmitt 2000, Lauger & Hulstijn 2001, Nation 2001), Therefore, it is recommended that vocabulary instruction be done taking advantage of both explicit and implicit learning approaches.

Further, since the findings of this study indicated not only the plausibility of doing in-class extensive reading but also its potential for improving vocabulary instruction, it is highly recommended that the employment of extensive reading be extended to other language learning areas, such as skills work, grammar instruction and pronunciation practice. Moreover, it can be claimed, based on the observation of the ELV participants in the course of the study, that activities requiring deep-level cognitive processing could aid learners in becoming more aware of the formal aspect of both instruction and language, hence rendering learners more conscious of the levels of vocabulary knowledge specifically and the context of learning in general. It follows that the ELV participants would probably be more cognizant of the formal features of language and would, in all likelihood, take advantage of this cognizance to master the correct use of such features, be it vocabulary of any other language feature.

Finally, owing to the limitations imposed upon the study, future research studies may investigate the effectiveness of implicit and explicit approaches to learning on other areas or on components of vocabulary knowledge. These studies may be conducted with female learners, or may be carried out with participants within two different age ranges – young and adult learners. The language level of the participants could be taken into account to investigate whether implicit and explicit learning approaches tend to be more effective at certain levels of proficiency.

REFERENCES

Aitchison, J. (1994). *Words in the mind: an introduction to the mental lexicon*. Oxford: BasilBlackwell.

Carter, R. (1998). *Vocabulary: applied linguistic perspectives*. London: Routledge.

Carter, R., & McCarthy, M. (1988). *Vocabulary and language teaching.* London: Longman.

Coady, J., & Huckin, T. (Eds.). (1997). *Second language vocabulary acquisition.* Cambridge: Cambridge University Press.

Day, R., R. & Bamford, J. (1998). *Extensive reading in the second language classroom*. Cambridge: Cambridge University Press.

Decarrico, J., S. (1999). Vocabulary learning and teaching. In M. Celce-Murcia (Eds.). *Teaching English as a second or foreign language (pp 285-299*). New York: Heinle & Heinle.

Ellis, N., C. (1994). Vocabulary acquisition: The implicit ins and outs of explicit cognitive mediation. In N. C. Elli (Eds.), *Implicit and explicit learning of languages (pp 211-282*). London: Adademic Press.

Gairns, R., & Redman, S. (1986). *Working with words*. Cambridge: Cambridge University Press.

Grabe, W. (1991). Current developments in second language reading research. *TESOL Quarterly*. *Vol. 25* (3), 375 –406.

Green, C. (2005). Integrating extensive reading in the task-based curriculum. *ELT Journal*. *Vol. 59* (4), 306-311.

Krashen, S. (1989). We acquire vocabulary and spelling by reading: additional evidence for the input hypothesis. *The Modern Language Journal. Vol. 73* (4), 237-270.

Laufer, B., & Hulstijn, J. (2001) Incidental vocabulary acquisition in a second language: the construct of task- induced involvement. *Applied Linguistics, 22*, 1-26.

Nation, I. S. P. (1990). *Teaching and learning vocabulary*. New York: Heinle and Heinle.

Nation, I. S. P. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.

Nuttall, C. (1982). Teaching reading skills in a foreign language. London: Heinemann.

Paribakht, T. S., & Wesche, M. (1997). Vocabulary enhancement activities and reading for meaning in second language vocabulary development In J. Coady & T. Huckin (Eds.). *Second Language Vocabulary Acquisition.* Cambridge: Cambridge University Press.

Renandya, W., & Jacobs, G. (2002). Extensive reading: why aren't we all doing it? In J. C. Richards., & W. Renandya (Eds.). *Methodology in language teaching.* Cambridge: Cambridge University Press.

Schmitt, N. (2000). *Vocabulary in language teaching*. Cambridge: Cambridge University Press.

Schmitt, N. (2008). Instructed second language vocabulary learning. *Language teaching research, 12* (3), 329–63.

Schmitt, N. , & McCarthy , M . (Eds.) . (1997). *Vocabulary : description , acquisition and pedagogy.* Cambridge: Cambridge University Press.

Singleton, D. (1999). *Exploring the second language mental lexicon*. Cambridge: Cambridge University Press.

Sokmen, A., J. (1997). Current trends in teaching second language vocabulary. In N. Schmitt., & M. McCarthy (Eds.).*Vocabulary: description, acquisition and pedagogy*. Cambridge: Cambridge University Press.

Stevick, E. W. (1996). *Memory, meaning and method*. Heinle & Heinle.

Thornbury, S. (2002). *How to teach vocabulary*. Harlow: Longman.

Waring, R. & Takaki, M. (2003). At what rate do learners learn and retain new vocabulary from reading a graded reader? *Reading in a Foreign Language, 15* (2), 130–63.

Welch, R. (1997). Introducing extensive reading. *The Language Teacher*, *21*(5), 51 –53.

Whitney, P. (1998). *Psychology of language*. Houghton Mifflin.

Wilkins, D. A. (1976). *Notional syllabuses*. London: Oxford University Press.

Zimmerman, C. B. (1997). Do reading and interactive vocabulary instruction make a difference? An empirical study.*TESOL Quarterly. Vol. 31* (1), 121–40.