THE COMPARATIVE EFFECT OF PRESENTING WORDS IN SEMANTICALLY RELATED AND UNRELATED SETS IN INTENTIONAL AND INCIDENTAL LEARNING CONTEXTS ON IRANIAN EFL LEARNERS' VOCABULARY LEARNING

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Abstract

This study was conducted among 120 female EFL learners who were selected among a total number of 180 based on their performance on a piloted Cambridge Key English Test (KET) and randomly put into four experimental groups. The same content was taught to all four groups throughout the fifteen-session treatment; the only difference was over the mechanism of teaching vocabulary to the four groups. In the first group, vocabulary was taught in semantically related sets and in an incidental learning mode. The second group received them in the same sets but in an intentional learning mode. The third experimental group experienced semantically unrelated sets and in an intentional learning mode, while the fourth group was taught the vocabulary in semantically unrelated sets but in an incidental learning mode. A vocabulary achievement test within the content area was given to the students in all groups at the end of the instruction and the mean scores of all groups on this posttest were compared through a two-way ANOVA which led to the rejection of all four null hypotheses raised in the study, thus concluding that presenting words in semantically unrelated sets and in an intentional learning mode was more effective on students' vocabulary achievement compared to the other modes.

Introduction

The study of vocabulary has been highlighted in language teaching in terms of organization of syllabuses and assessment of learner performance, thus raising the interest of psychologists, linguists, and language teachers in vocabulary learning strategies (Griffin, 1996). This is perhaps true since vocabulary acquisition is crucial to students' other four language skills. Without enough vocabulary, they will be inefficient. As Nation (2001, p.23)

states, "Without grammar very little can be conveyed, without vocabulary nothing can be conveyed".

Vocabulary Learning

Several large-scale investigations of foreign language vocabulary learning have been undertaken (Read, 2000), the impetus for which came from two quarters. First, there was a general consensus among language teaching specialists that vocabulary was one of the most important aspects of foreign language learning (Palmer, Richard & Rodgers, 2001). Such an approach engendered the development of the principles of vocabulary control, which, in turn, laid a significant practical impact on ELT in subsequent decades. Second, certain researchers have attempted to determine the amount of vocabulary needed by an L2 learner to be able to get along without a major burden (Hirsh & Nation, as cited in Keshavarz & Mohammadi, 2009) and studies of corpus linguistics revealed that a core of 2000 or so words occurred frequently in written texts and that knowledge of these words would greatly assist in reading a foreign language; naturally, a major debate has been circling about the most effective way to develop learners' foreign language vocabulary (Erten & Tekin, 2008).

Baracraft (2003) believes research on L2 vocabulary acquisition has addressed the relationship between semantic elaboration and L2 word learning. The former refers to a focus on the semantic properties or the meaning of a word – the learning of which is of course an ongoing process (Arnaud & Savignon, as cited in Author & Hatam, 2009) – such as if one reflects on the extent to which the word *snail* represents an example of an animal, insect, food, or another category, or if one tries to think of other words related to snail (Baracraft, 2004).

Semantically Related/Unrelated Sets of Words

In the second half of the 20th century, using word associations in vocabulary teaching became highly prevalent and found its way into materials (McCarthy, 1990). According to Waring (1997), this common practice in vocabulary instruction is founded upon the growing belief among course book writers that presenting new vocabulary in semantically related groups would facilitate vocabulary building; this advocacy, nonetheless, is not warranted by research but rather established on methodology and convenience.

The above paradigm is, however, controversial, as research as early as the 1930s revealed that when several similar words were introduced at the same time, it had an interfering effect

on learning and that especially synonyms were learned very poorly by the participants (McGeoch & McDonald, as cited in Erten & Tekin, 2008). This is often referred to as the *Interference theory* (Anderson, 2003; Baddeley, 1997; Reed, 2004) thus advocating the instruction of vocabulary in semantically unrelated sets.

Other research delineated that learning new words in semantic sets required more learning trials to be learned completely (Finkbeiner & Nicol, 2003; Tinkham, 1993, 1997; Waring, 1997). A study by Pigada and Schmitt (2006) also revealed that words confused by learners are not only the semantically related ones but words that have similar forms. This is true probably as it requires more time to differentiate these new words and to assign new labels for them in semantically related items (Nation, 2000).

These findings can be translated into an assertion which claims that semantically similar new words might have a "deleterious effect on learning" (Finkbeiner & Nicol, 2003, p.376) and actually impede rather than facilitate the learning of new vocabulary items (Tinkham, 1993).

Certain L2 acquisition theorists and practitioners (e.g., Laufer, 1992; Nation, 2001), on the other hand, defend implicitly or explicitly the position that teaching new L2 vocabulary in semantically grouped sets is an effective method of vocabulary instruction. Haycraft (1993) also argues that the learning of one item can be reinforced by the learning of another, since teaching a number of words in an unrelated way can be analogized to imagining a tree with no trunk and branches, but only leaves. Haycraft maintains that it is easier to teach vocabulary items that belong to the same semantic field because learners will be able to form a pattern of interrelated words in their minds.

Although teaching vocabulary has always been a cornerstone in ELT (Bogaards & Laufer, 2004; Read, 2000; Richards & Renandya, 2002), to this day, there does not seem to be a consensus on several issues, such as whether new vocabulary should be presented in semantically related or unrelated sets.

Incidental and Intentional Vocabulary Learning

If the above controversy over presenting new words in semantically related and unrelated sets were not enough, another increasingly pervasive discussion in vocabulary learning focuses on incidental and intentional learning of words (also referred to in the literature as formal and informal learning). Marsick and Watkins (1990, p.12) introduce formal learning as

being "typically institutionally sponsored, classroom-based, and highly structured". They further hold that, "Informal learning, a category that includes incidental learning, may occur in institutions, but it is not typically classroom-based or highly structured, and control of learning rests primarily in the hands of the learner" (p.12). They also define incidental learning as "a byproduct of some other activity, such as task accomplishment, interpersonal interaction, sensing the organizational culture, trial-and-error experimentation, or even formal learning", (p.12) while arguing that informal learning can happen purposefully in an institution even though people are not necessarily conscious of it.

Different types of vocabulary learning can be viewed as points on a continuum between incidental and intentional learning (Coady, 1997) because attention is not a dichotomous entity (Gass, 1999; Wesche & Paribakht, 1999). Vocabulary instruction methods also range from being highly indirect to highly direct (Haynes, as cited in Wesche & Paribakht, 1999). In incidental vocabulary learning, learners acquire new words from the context without having the intention of doing so, such as when picking up new words during free reading.

Intentional vocabulary learning, however, refers to learning new words while intending to do so, such as when a learner studies a list of target words or completes activities in a workbook while working to learn a set of new target words (Wesche & Paribakht, 1999). Nevertheless, a great deal of vocabulary learning may be neither purely incidental nor purely intentional (Kennedy, 2003).

Hatch (1983, p.74) argues in favor of the centrality of the lexicon to both acquisition and use by stating that, "It is the lexical level that adult L2 learners regard as most important. When the first goal is communication, when there is little of the new language in command, it is the words that make basic communication possible".

As stated earlier, there is also debate over the usefulness of incidental over intentional word learning or vice versa for that matter. Hence, in line with what has been discussed so far, this research set out to study the difference of impact – if any – between teaching words in semantically related and semantically unrelated sets on the vocabulary learning of EFL learners who have been exposed to incidental and intentional vocabulary learning contexts.

To fulfill the purpose of this study, the following null hypotheses were raised:

H_{01}:   There is no significant difference between the effect of presenting words in semantically related and unrelated sets on the vocabulary learning of EFL learners who are exposed to an incidental vocabulary learning context.

H_{02}:   There is no significant difference between the effect of presenting words in semantically related and unrelated sets on the vocabulary learning of EFL learners who are exposed to an intentional vocabulary learning context.

H_{03}:   There is no significant difference between the effect of presenting words in semantically related sets on the vocabulary learning of EFL learners who are exposed to an intentional and those exposed to an incidental vocabulary learning context.

H_{04}:   There is no significant difference between the effect of presenting words in semantically unrelated sets on the vocabulary learning of EFL learners who are exposed to an intentional and those exposed to an incidental vocabulary learning context.

Method

Participants

To accomplish the objectives of this study, 180 female elementary EFL learners sat for a previously piloted general English proficiency test (KET: Key English Test from Cambridge ESOL). This test was administered to make sure that the would-be 120 participants of this study (those among the 180 whose scores fell within one standard deviation above and below the mean) were homogeneous in terms of their language knowledge prior to the treatment.

Following this administration, the above 120 students were randomly assigned into four experimental groups including 30 students in each of the groups accordingly: one group receiving the treatment of semantically related sets of words in an incidental learning setting, one group receiving the treatment of semantically related sets of words in an intentional learning setting, one group receiving the treatment of semantically unrelated sets of words in an incidental learning setting, and one group receiving the treatment of semantically unrelated sets of words in an intentional learning setting.

Instrumentation and Materials

Language Proficiency Test

As noted above, a KET was used to homogenize the participants' level of general language proficiency prior to the treatment. The test included 80 questions: 25 listening

comprehension questions lasting 25 minutes, 55 vocabulary and structure questions taking 35 minutes, 15 reading comprehension and cloze test questions spanning 30 minutes, and a writing section.

Teacher-Made Vocabulary Posttest

The researchers designed a vocabulary test comprising 60 multiple-choice items on the new words of the textbook which were taught during the treatment. Prior to the actual administration, the test was piloted among 30 learners with almost the same language background of the participants towards the end of the study. The results showed that 10 items were faulty and had to be discarded; hence, the actual posttest contained 50 items.

Textbook

Fifteen units of *Basic Vocabulary in Use* (McCarthy, O'Dell & Shaw, 2001) were used in all four groups. As the name of the book suggests, the content is simple together with colorful illustrations which make it appropriate for students at the elementary proficiency level.

Procedure

As described above, the first step in conducting this research was piloting the KET among 30 elementary EFL learners and subsequently administering it. Following the above process of selecting the participants and forming the four experimental groups, the actual treatment commenced. It is worth noting that all groups were taught by one of the researchers in order to control the variability of different teachers; having different teaching styles and attitudes (i.e., the teacher variable).

Furthermore, as there was a maximum of 15 students in each class, there were actually a total of eight classes with two in each of the four experimental groups. Each class lasted 10 sessions and six new words were presented in each session meaning a total of 60 words in all four groups. Two extra sessions were allocated to test administrations: for homogenization and posttest.

In all four settings, the overall 60 vocabulary items were selected following certain rigid criteria; words included in the experiment were chosen and classified according to their length (Ellis & Beaton, 1993; Erten as cited in Erten & Tekin, 2008), semantic relations (Tinkham, 1993, 1997; Waring, 1997), and cognateness (Nation, 1990), while also

considering idiomaticity and concreteness (Laufer, 1990). They were divided into two word sets: one semantically related and one semantically unrelated set.

Presenting Words in Semantically Related Sets

During the first week, two sets of words were introduced to the participants in class hours on two different days. The first set contained five semantically related words (animal words) and this set was presented first. The second set which was presented two days after the first set, contained five semantically related words (food words). This procedure was repeated for the following weeks too.

Vocabulary items were presented in a controlled manner in terms of time and actions to provide equal study conditions for each word. In each group and presentation, every effort was made to equalize the number of repetitions, gestures, mimes, and time allocated for each word. The activities used with both groups were the same and included repetition drills and matching words with flashcards. Furthermore, the same materials, namely flashcards and worksheets, were used with both groups.

Presenting Words in Semantically Unrelated Sets

The study was conducted as a part of the normal English course during normal class hours. The new words were presented by means of flashcards and reinforced through repetition where students were asked to match vocabulary items to any available corresponding pictures.

The teacher taught pronunciation, synonyms, and gave easy definitions. The vocabulary items were chosen from two semantic fields. The first semantic set included 20 animal words and the other semantic set contained 20 food words. The other two sets had 20 semantically unrelated vocabulary items each.

Presenting Words in Intentional Learning

During intentional vocabulary learning, the learners might invoke different types of learning techniques as compared with incidental vocabulary learning. These students tried to learn new words while intending to do so, such as when they studied a list of 10 target words or completed activities in a workbook while working to learn that set of new target words. The teacher taught the students vocabulary, giving definitions and synonyms and showing them

pictures. The students were not required to do any kind of tasks with the vocabulary they were learning, and they only answered the questions presented in their course book.

Presenting Words in Incidental Learning

In the incidental setting, however, the two groups completed tasks in the same workbook which involved reading two sets of 10 sentences, each sentence containing one of 10 target words. The amount of information presented in the sentences that could be used to learn the meanings of the target words varied between the two sets. Each set of 10 sentences was presented on one page.

Following the treatment in each of the four groups, all the students took part in the piloted teacher-made vocabulary posttest.

Results

Participant Selection

Piloting and Administering the KET

In the piloting phase, the mean and standard deviation of the scores obtained by the 30 students who took part in the piloting were 57.47 and 10.02, respectively. Also, the reliability of the test stood at 0.81. In the subsequent administration to the 180 students who sat for the KET prior to the selection of participants, the mean and standard deviation were 52.21 and 13.13, respectively, with the reliability being 0.86. Among the above 180, a total of 120 whose scores fell one standard deviation above and below the mean were selected. Table 1 displays the descriptive statistics of these 120 participants.

Table 1. Descriptive Statistics of the 120 Participants in the Four Groups Prior to the Study

	N	Min	Max	Mean	Std. Deviation	Skewness	
						Statistic	Std. error
KET Administration	120	40	65	53.98	8.030	-.126	.221
Valid N (listwise)	120						

Following the above selection, the 120 students were randomly assigned into four experimental groups including 30 students in each of the groups. Table 2 presents the data of the 120 participants disaggregated by the four groups.

Table 2 – Descriptive Statistics of All Four Groups on the KET

	N	Min	Max	Mean	Std. Deviation	Skewness	
						Statistic	Std. error
KET Intn Rel	30	40	65	53.90	8.109	-.134	.427
KET Intn Unrel	30	40	65	54.33	8.159	-.107	.427
KET Incd Rel	30	40	65	53.70	8.137	-.134	.427
KET Incd Unrel	30	40	65	54.00	8.116	-.153	.427

To make sure that the four groups bore no significant difference in terms of their language proficiency, the researchers ran a one-way ANOVA on the mean scores of the four groups on the KET. Prior to running this parametric test, the normality of the distribution of the scores had to be checked first of course. According to Table 2, the skewness ratios of the four groups stood at -0.31, -0.25, -0.31, and -0.35 all within the acceptable ±1.96 range. Furthermore, the result of the Levene's test of homogeneity of variances showed the non-significant statistic of 0.001 ($p = 1.000 > 0.05$) demonstrated that the distributions enjoyed homogeneous variances.

As Table 3 demonstrates, the difference was not significant ($F_{(1,116)}= 0.032$, $p = 0.992$), since the p value was larger than 0.05; therefore, there was no significant difference between the mean scores of the four groups' language proficiency prior to the study.

Table 3. One-Way ANOVA of the KET Mean Scores of the Four Groups

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.300	3	2.100	.032	.992
Within Groups	7667.667	116	66.101		
Total	7673.967	119			

Posttest

Piloting and Administering the Vocabulary Test

The descriptive statistics of the scores of the 30 students in this piloting (not from among the main 120 participants) showed that the mean and the standard deviation of the scores stood at 37.27 and 5.65, respectively, with the reliability of the test being 0.70.

Table 4 below displays the descriptive statistics for all four groups on the vocabulary posttest in one table for easier reference.

Table 4 – Descriptive Statistics of All Four Groups on the Posttest

	N	Min	Max	Mean	Std. Deviation	Skewness	
						Statistic	Std. error
Ptest Intn Rel	30	24	43	33.40	5.437	.065	.427
Ptest Intn Unrel	30	30	48	39.87	5.270	-.295	.427
Ptest Incd Rel	30	15	41	24.60	7.035	.515	.427
Ptest Incd Unrel	30	20	45	32.63	7.233	-.229	.427

Testing the Hypotheses

To verify all four hypotheses of the study together, a two-way ANOVA was required since there is a dual learning modality (intentional versus incidental vocabulary learning) and also a dual style of presenting vocabulary (in semantically related and unrelated sets) involved with one dependent variable (vocabulary learning) at stake. Prior to this of course, the two assumptions for running this parametric test had to be checked. Firstly, the descriptive statistics of all four subgroups had to be checked for normality of distribution. As is evident from Table 4 above, the skewness ratios of all four subgroups fell within the acceptable range (0.15, -0.69, 1.2, and -0.51).

Next, the Levene's test of equality of error variances was run with the results showing that the variances among the four subgroups were not significantly different ($F_{(3,116)}$ = 1.431, p = 0.237 > 0.05). Accordingly, running a two-way ANOVA was legitimized. Table 5 below shows the results of the tests of between-subjects effects.

Table 5. Tests of Between-Subjects Effects

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	3523.292[a]	3	1174.431	29.521	.000
Intercept	127726.875	1	127726.875	3210.586	.000
Learning Mode	1928.008	1	1928.008	48.463	.000
Word Pres	1576.875	1	1576.875	39.637	.000
Learning Mode * Word Pres	18.408	1	18.408	.463	.498
Error	4614.833	116	39.783		
Total	135865.000	120			
Corrected Total	8138.125	119			

a. R Squared = 0.288 (Adjusted R Squared = 0.269)

As Table 5 indicates, the significance value was less than 0.05 ($F_{(3,116)}$ = 3253.292, p = 0.000). There was a significant difference between the impact of the two learning modes on all the participants ($F_{(1,116)}$ = 1928.008, p = 0.000 < 0.05). Furthermore, there was a significant difference between the impact of the two word presentation modes in this study in general ($F_{(1,116)}$ = 1576.875, p = 0.000 < 0.05).

Finally, as the interaction of the learning mode and word presentation format did not prove significantly different ($F_{(1,116)}$ = 18.408, p = 0.000 < 0.498), the overall conclusion was that the interaction of the two learning modes (intentional and incidental) with the two word presentation types (in semantically related and unrelated sets) was not significant.

As in this univariate two-way ANOVA there were only two modalities of each of the pair of variables, running Post-Hoc tests was not feasible since a minimum of three cases are required for such tests. Hence, as the differences proved significant, the researchers had to clarify which group significantly outperformed which through a two-by-two comparison. The first step was to calculate the descriptive statistics for each of the following groups on the posttest: the 60 participants who underwent intentional learning in both groups, the 60 participants who underwent incidental learning in both groups, the 60 participants who received words in semantically related sets, and the 60 participants who received words in semantically unrelated sets. Tables 6 and 7 display the results for the two overall groups of intentional and incidental learning.

Table 6 – Case Processing Summary for Learning Mode on the Posttest

	Learning mode	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Posttest	1	60	100.0%	0	.0%	60	100.0%
	2	60	100.0%	0	.0%	60	100.0%

Table 7. Descriptive Statistics for Learning Mode on the Posttest

		Learning Type		Statistic	Std. Error
Posttest	Intentional	Mean		36.63	.804
		95% Confidence Interval for Mean	Lower Bound	35.02	
			Upper Bound	38.24	
		Std. Deviation		6.230	
		Minimum		24	
		Maximum		48	
		Skewness		-.101	.309
	Incidental	Mean		28.62	1.052
		95% Confidence Interval for Mean	Lower Bound	26.51	
			Upper Bound	30.72	
		Std. Deviation		8.151	
		Minimum		15	
		Maximum		45	
		Skewness		.113	.309

Table 7 shows that the means for the intentional group was higher than that of the incidental group (36.63 compared to 28.62). Therefore, the intentional group outperformed the incidental group significantly.

Tables 8 and 9 display the results for the two overall groups of word presentation in semantically related and unrelated sets.

Table 8. Case Processing Summary for Word Presentation Type on the Posttest

	Word presentation type	Cases					
		Valid		Missing		Total	
		N	Percent	N	Percent	N	Percent
Posttest	1	60	100.0%	0	.0%	60	100.0%
	2	60	100.0%	0	.0%	60	100.0%

Table 9. Descriptive Statistics for Word Presentation Type on the Posttest

		Learning Type		Statistic	Std. Error
Posttest	Semantically related	Mean		29.00	.988
		95% Confidence Interval for Mean	Lower Bound	27.02	
			Upper Bound	30.98	
		Std. Deviation		7.651	
		Minimum		15	
		Maximum		43	
		Skewness		-.098	.309
	Semantically unrelated	Mean		36.25	.937
		95% Confidence Interval for Mean	Lower Bound	34.38	
			Upper Bound	38.12	
		Std. Deviation		7.257	
		Minimum		20	
		Maximum		48	
		Skewness		-.515	.309

Table 9 shows that the means for the semantically related set was lower than that of the semantically unrelated set (29.00 compared to 36.25). Therefore, those receiving the semantically unrelated sets outperformed those receiving the semantically related sets significantly.

For further analysis of the ANOVA results and to verify each of the four hypotheses of this research, the means of the four subgroups on the posttest (already shown in Table 4) are presented again below in Table 10 for easier reference.

Table 10. Means of All Four Subgroups on the Posttest

Learning mode * Word presentation type	Intentional – Related	Intentional – Unrelated	Incidental – Related	Incidental – Unrelated
Mean	33.40	39.87	24.60	32.63

Based on the ANOVA table revealing the significant differences, the first hypothesis of the study, that is, *there is no significant difference between the effect of presenting words in semantically related and unrelated sets on the vocabulary learning of EFL learners who are exposed to an incidental vocabulary learning context* was rejected as those exposed to semantically unrelated sets outperformed significantly those exposed to semantically related sets in the incidental setting. The second hypothesis which read *there is no significant difference between the effect of presenting words in semantically related and unrelated sets on the vocabulary learning of EFL learners who are exposed to an intentional vocabulary learning context* was also rejected as again those exposed to unrelated semantic sets outperformed significantly those who received semantically related sets in the intentional setting.As for the third hypothesis or *there is no significant difference between the effect of presenting words in semantically related sets on the vocabulary learning of EFL learners who are exposed to an intentional and those exposed to an incidental vocabulary learning context*, this was also rejected as those undergoing the intentional setting achieved significantly more than those undergoing the incidental setting with semantically related sets. Finally, the fourth hypothesis which states that *there is no significant difference between the effect of presenting words in semantically unrelated sets on the vocabulary learning of EFL learners who are exposed to an intentional and those exposed to an incidental vocabulary*

learning context was also rejected as those exposed to an intentional setting outperformed significantly those in an incidental setting with semantically unrelated sets.

In the next step, the researchers calculated the parameter estimates to estimate eta squared (η^2) to find out how much of the obtained difference could be explained by the two different learning modes of incidental and intentional vocabulary learning and also the word presentation in semantically related and unrelated sets. Table 11 provides that information.

Table 11 – Estimates of Effect Size for the Posttest

Source	Partial Eta Squared	Noncent. Parameter	Observed Power[b]
Intercept	.874	28.338	1.000
Learning Mode	.145	4.442	.993
Word Presentation Type	.173	4.933	.998
Learning Mode * Word Presentation Type	.004	.680	.104

    a. R Squared = 0.433 (Adjusted R Squared = 0.418)
    b. Computed using alpha = 0.05

As demonstrated in Table 11, η^2 came out to be 0.145 and 0.173 which indicated that the two settings of learning accounted for 14% of the variability in the posttest scores, while the two word presentation types did so for 17% of the variability.

Moreover, to determine the strength of the findings of the research, that is, to evaluate the stability of the research findings across samples, effect size was also estimated. The observed power as shown in Table 11, came out to be 0.99 for the learning mode and 1.00 for the word presentation type. According to Mackey and Gass (2005), a value of 0.8 and more is generally considered a large effect size. Therefore, the findings of the study could be considered strong enough for the purpose of generalization.

Discussion

The results of this study generally demonstrated that those exposed to semantically unrelated sets of words outperformed those exposed to semantically related sets. In addition, intentional learning proved to be more effective than incidental learning.

There may be several possible explanations why words presented in semantically unrelated sets were retained more efficiently than those presented in semantically related sets. Firstly, although vocabulary items appear to be organized in the mental lexicon around semantic

bonds (Aitchison, 1994, 1996; McCarthy, 1990; Meara, 1983), the learning of new vocabulary items might pursue a different path of mental processing. At the same time, as McLaughlin (1990) argues, semantic fields are the final outcomes of the learning process while they represent aspects and features of what is already known. As discussed by several researchers (e.g., Erten, 1998; Nation, 2001; Pigada & Schmitt, 2006; Tinkham, 1993, 1997; Waring, 1997), students who learn related words possibly focus on discriminating between semantic properties in the process by refining their existing lexical bonds through a restructuring process. This latter process may develop confusion due to cross-association between similar items which in turn would result in interference in memory (Baddeley, 1997; Reed, 2004). On the other hand, dissimilar words probably do not cause much interference and confusion.

In other words, the memory space and brain energy which would be allocated to handling the interference caused by the semantic similarities of vocabulary items would be freed in the process of learning words in a semantically unrelated set as the task of discrimination would be easier.

Furthermore, certain studies have revealed that deeper mental analysis of words results in better retention (Hashemi & Gowdasiaei, 2005; Haycraft, 1993; Seal, 1991). Studies on intentional L2 vocabulary learning have demonstrated that L2 word learning can decrease when learners are required to perform semantically oriented tasks (Baracraft, 2002, 2003, and 2004). This is perhaps why learners exposed to an intentional learning setting perform better at the end of the day than those who are not encouraged to undergo such mental analyses.

Conclusion

Although this study was limited in scope to a group of Iranian female intermediate EFL learners, the results did indicate a strong effect size and, hence, the findings may stand generalizable. To this end, two main pedagogical implications can be derived from these results. First, the study provides further evidence favoring the inclusion of direct instructions to learn target words and other techniques to foster intentional vocabulary learning during reading, thus corroborating previous findings on this area (e.g. Hulstijn, 1992). Second, the findings argue against the use of semantically oriented tasks during the initial stages of learning new L2 words, given that overall cued recall of the new L2 vocabulary was higher when learners were not required to learn the semantically related set of words. The

intentional learning model helps learners to acquire L2-specific meanings of target words in context and to develop their ability to use target words in L2.

English teachers can benefit from this approach in order to teach vocabulary, which is a fundamental part of language learning, more effectively. When undergoing the intentional vocabulary learning and sets of unrelated words, students enjoy their learning – as was expressed by the learners in the class through their L1. This is true since the way they learn is totally different from their previous experiences; learning happens in a different way under this approach and gives them the experience that they are not only exposed to new vocabulary but also they learn it in context.

The findings of this research can also help syllabus designers and textbook writers to design more effective textbooks for elementary learners. Also, it is recommended to design a teacher's guide with the focus on how to present and instruct vocabularies for the content being used in different systems clearly, because not having a guide can lead to controversial issues faced by different teachers.

Biodata

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