Flourishing Creativity & Literacy

The Impact of Presenting Semantically Related Clusters of New Words on Iranian Intermediate EFL learners' Vocabulary Acquisition

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Abstract

Teaching vocabulary in semantically related sets use as a common practice by EFL teachers. The present study tests the effectiveness of this techniques by comparing it with semantically unrelated clusters as the other technique on Iranian intermediate EFL learners. In the study three intact classes of participants studying at Isfahan were presented with a set of unrelated words through " 504 Absolutely Essential words", a set of related words through "The Oxford Picture Dictionary ", and the control group were presented some new words through six texts from "Reading Through Interaction". Comparing of the results indicated that, while both techniques help the learners to acquire new sets of the words, presenting words in semantically unrelated sets seems to be more effective.

Keywords: Semantically related clusters, semantically unrelated clusters, vocabulary acquisition, and interference

1. Introduction

The undeniable importance of vocabulary and vocabulary teaching in second language acquisition (SLA) has been proved. Without words, expressing a wide range of meaning cannot happen in meaningful ways (MC McCarthy, 1992). On the other hand, some other skills such as listening comprehension, reading or language use hinge on the knowledge of vocabulary. Therefore, it is necessary to find a proper and effective ways of teaching it. Investigating such ways is necessary to enhance second language vocabulary acquisition. According to Meara (1993), vocabulary acquisition which had been neglected in language learning has reached to a growing publication area. Two prevalent methods of presenting new words to learners are semantically related sets and semantically unrelated ones. However, the usefulness of presenting vocabularies in semantic clusters has not yet been empirically proved and the effects of semantically unrelated sets are still under investigation. Previous studies have reported a lot of semantic confusion errors in adults' vocabulary retention and recall, when the words had been presented in semantic clusters. Older adults also showed the ability to use context information in more meaningful situations and encoding information less distinctively (Craik & Simon, 1980; Rabinowitz et al., 1982). This study will compare the presentation of L2 vocabularies in the following ways: semantically related way and semantically unrelated one, and it also compares the effectiveness of the so-called ways on vocabulary acquisition of young adult learners. It also aims to help curriculum designers of this level to choose the most effective way of presenting new words to learners which mostly help them retain words longer in their mental lexicon.

In the semantic cluster words carry the meaning of a related semantic group (colors) and the same semantically forms (nouns), whereas in the thematic content and may be from different word classes (adjectives, nouns, and verbs) but are still related to the special concept of the frog's environment and behavior thematically.

The idea of presenting new words and chunks in semantically related clusters has its root and origin in educational psychology. It seems the earliest and most influential of semantic clustering technique belongs to Ausuble. As a psycholinguist' he suggested (Ausuble, 1968), that superordinate concepts can be presented in advance in order to activate the existing schema in the mental lexicon, which prepares the organization of new lexicon into those pre-activated slits.

1.1 Statement of the Problem

Language is a multi-dimensional subject and include components. One important component of all languages is vocabulary in which having good knowledge improves learners' comprehension. According to the instrumentalist view of Schreuder and Welten (1993), vocabulary knowledge is a major prerequisite and causative factor in comprehension.

For many years, designing English vocabulary textbooks has been based on presenting words in semantic clustering for learners in all ages. Based on the working experiences of the researcher and also that of other teachers, Iranian EFL learners have a lot of difficulty in acquiring and retaining vocabularies. Beside the use, the most important goals of teaching vocabulary are acquiring and retaining them, so that they can still be available after the course ends. As the results of previous studies (Erten & Tekin, 2008; Nation, 2009; Tinkham, 1993; Waring, 1997), show and according to the controversial point of views regarding the effectiveness of these techniques, it is necessary to conduct a research in this area to reach to a general agreement on which method is better for young adult learners who are studying English at the intermediate level. Furthermore, the impacts of semantically related and semantically unrelated presentation of words on learners will be gained.

1.2 Research Questions

1. Does semantic clustering of words exert a significant effect on the acquisition of vocabulary by Iranian intermediate EFL learners?

2. To what extent does presentation of words in semantically related or unrelated sets facilitate Iranian elementary EFL learners' vocabulary learning?

1.3 Research Hypothesis

Semantic clustering of words does not exert a significant effect on the acquisition of vocabulary by Iranian EFL learners.

2. Literature Review

Ediger (1999) believes in some reasons to guide learners enrich their vocabulary knowledge: Learners can express their ideas with more clarity if they have a rich scope of vocabulary. Learners who work in English work places can improve the quality of their proficiencies in case of having good knowledge of vocabulary. Individuals will be more proficient in other skills such as speaking and reading. Developed vocabulary improves individuals' power of expressing themselves and consequently their personality. By having a rich vocabulary scope, learners enthusiastically participate in communication with other people, whether a writing communication or a speaking one.

The review of Folse (2004) investigated teaching vocabulary on semantically related sets, and said grouping of words can actually impede the learning of vocabulary. Nation (2000, 2005) recommends the teaching of high-frequency vocabulary. Hill (1999) points out the fluency which is the common problem of most learners. He believes that as "collocational competence" of learners is limited, we should work on the vocabulary they have already got.

Regarding the discussion of meaning, Pica (1994) claimed that negotiated cooperation may be beneficial in learning lexicon. Long (1996) also argued that at least in the realm of vocabulary and morphology, negative feedback obtained in discussion works may facilitate L2 development. Mackey (2000) found out the type of interactional feedback, which illustrated a promotion in lexical acquisition. According to what Ellis, Tanaka, & Yamazaki (1994) established, better comprehension and receptive acquisition of vocabulary is the result of negotiation.

A comprehensive vocabulary development program meets different needs of learners among which one can mention the following (Anderson & Nagy, 1991):

It teaches the strategic words to academic success.

It trains learners how to be independent word learners through systematic procedures.

Smith (1995) believes that an effective vocabulary instruction depends on the relationships between words and concepts. Concepts are the basic units of thought and belief for which words are the labels. He declares a familiar concept that attracts more corresponding words. In this regard, Christen and Murphy (1919) contend that new information will be integrated with what the learners already know. Smith, C. (1997) asserts that when learners are directly involved in constructing the meaning of words rather than just memorizing the definitions, they learn more effectively. Some of his recommended techniques to instruct vocabulary are:

- Webbing, which involves students' personal perspectives to develop vocabulary in the classroom.

- Semantic association, through which students brainstorm a list of words associated with a familiar word.

- Semantic mapping, through which words are grouped into categories and arranged on the visual "map" to clear the relationship among them.

- Semantic feature analysis, through which the grouping of words is according to certain features, such as similarities and differences.

- Analogies, that is making relationships among meanings of words. Course book writers are driven to provide semantically related vocabulary columns/components mostly as they consider the communicative needs of the students in a certain context.

Course books are provided into various units which respond to any situation students might find it necessary to communicate (e.g. shopping).The claim is supported by Modern Psychologists that believed to fragments of information which are stored and loaded up in the mind separately.

There exists the basis of agreement among linguists, that word not only does not come separately, but this refers to the other related terms and concepts (Levin & Pinker, 1991; Taylor, 1995, p.83). Psychologists believed that words are not kept in the mental lexicon as a single chunk, but they construct clusters in coupled concepts. In this regard, Grandy (1992) asserted that semantic field includes a set of one or more contrast sets and possibly permutation relations such as:

> "At most one covering term does not occur as an element of a contrast set in the semantic field. Except for the main term mentioned in (1), any expression that occurs in a contrast set with an element of the semantic field is also in the field. Thus, a semantic field can be a semantic field." (p.109).

According to Aitchison (1994), the arrangement of lexical units of the same semantic category is in complex network in which every single concept links to other related notions. The power of related words in strengthening one another's meaning and facilitating the acquisition of words in association with each other is not deniable. Recalling those words which are related to each other is also very easy.

Grandy (1999), Hashemi and Godasiaei (2005), Haycraft (1993), Seal (1991), Stoller and Grabe (1995), Wharton and Race (1999), are the authors who have supported presenting new words in semantically related clusters as the most effective way to teach vocabulary that is a reflection of the natural word organization in mental lexicon (Aitchison, 1994, 1996).

For many years the majority of L2 course books introduced new words in semantic groups. Some textbooks consider the effectiveness of introducing new words in semantically related clusters. For example learners are expected to learn "jobs" in *Headway Elementary* (Sears and Soars, 1993), necessary items in a classroom in *Vistas* (Brown, 1991), family members in *Express Way* (Molinsky & Bliss, 1996), clothes in the *New Cambridge English Course* (Swan & Walter, 1990).

As Erten and Tekin (2008) believe, semantically related offering new words has a lot of adverse and accordant theories. Lehrer (1974) who introduced semantic field theory advocates the approach of organizing and presenting L2 vocabularies. According to Wilcox and Medina (2013), in this theory instead of storing words randomly, they should be stored based on the semantic link between them. Therefore, we feed learners' mental lexicon with abundant lexical links and networks which have been made of same concepts.

Hashemi and Gowdasiaei (2005) took the pedagogical implication of this theory and state that those vocabularies which are presented in semantic groups resemble those in the mental lexicon of learners. Semantic clustering is also supported by componential analysis by Nida (1975) in structural linguistics. The importance of deconstructing words into their separate semantic components is emphasized.

Haycraft (1993) argues that learning an entry can be reinforced by the learning of the other one. He analogizes learning an unrelated set of words to a tree with no trunk and branches but only leaves. He claims that teaching vocabularies that have common semantic field is easier because learners will make a certain pattern of interrelated words in their minds.

Houston (2001) argued the basis of human learning and memory presented in experimental, theoretical, and psychological researches. He demonstrated that retention processes are not separated from the acquisition and transfer part of the overall process of learning. According to Houston, learning process is defined as "a relatively permanent change in behavior potentiality that occurs as a result of reinforced practice" (2001, p.14). Houston (2001) analyzed that in the processing approach, "the durability of a memory trace is determined by the depth to which it is processed"(p.270). Semantic network models of memory and retention deal with the storage of semantic and meaningful input.

In a study administered by Abdollahzadeh (2009), the effectiveness of applying semantic mapping approach in vocabulary instruction to EFL learners with different perceptual modalities versus traditional method was examined. To determine learners' modality types, a modified version of Reid's (1987) questionnaire which was about learning style was employed, and the results showed the remarkable impact of semantic mapping in empowering vocabulary learning of EFL learners, in contrast to traditional approach.

Furthermore, Bourne, Healy, and Schneider (1996) recorded that initial learners bear semantic clusters in mind better than unrelated ones. But long term tests and long term time have indicated completely different results.

In an experiment conducted by Tinkham (1993), two lists of three semantically related words and semantically unrelated ones were presented to the learners. Testing subjects by trail-to-criterion tests revealed that they learned semantically related words with more difficulty and slower pace than unrelated list. Thus, his research supports organizing words into nonrelated or thematically related groups. The same experiment was repeated by Waring (1997). He conducted his experiment by two lists of six semantically related words and semantically unrelated ones to determine which of these sets are learned faster. The conclusion was the same. According to Finkbeiner and Nicol (2003), as the similarities between clusters items decreases, possible interference effects reduce too.

In a study done by Thomas M. Hess in 1984, the researcher conducted two experiments to check the differences between adult ages in the use of contextual information in remembering and the specific conditions that affect context use. To fulfill the course requirements, twenty four young adults with the mean age of 20 participated in this study. The researcher selected forty five nouns which had distinct meanings. Then, he constructed two separate sets of acquisition word slides with half of the subjects in each group and presented the sets to each of them. A recognition test

immediately followed the presentation which contained 90 word pairs were selected in which 45 items were the target ones and the other 45 contained lures.

Each subject was tested individually or in groups of two to four. At first, learners were asked to memorize all the words on the slides. But, they were not given about the strategies or probable relationships between the words on each slide. The participants had to indicate each word pair in the test that had appeared on one of the study slides with no time limit for completion of the test.

Experiments of Hess (1984), showed that when there was an apparent semantic relation between those items that must be remembered and the context in which they happened, older adults were more probable to encode context information. But, the probability of utilizing contextual information was less in those situations which there was no immediate available or familiar encoding context in presented targets. By this finding, we can compare older adults' memory performance to that of young adults in those situations that they can call upon past experience or existing knowledge (e.g., Waddell & Rogoff, 1981).

Despite older adults ability to use context information in more meaningful situations, in a comparison between older and young adults, it was found that the type of information encoded by elders were less distinctive. According to Craik and Simon (1980) and Rabinowitz et al., (1982), this observation is matching the notion that older adults will be less probable to encode unique information. It is believed that automatic access of word meaning features is related to encoding of general semantic information. The less distinctive encoding has a negative effect on the performance of memory when the discrimination between similar events is required. Considering the fact that the probability of making more semantic confusion in older is higher (Hess & Higgins, 1983; Rankin &Kausler, 1979; Smith, 1975), the hypothesis of encoding semantic information in a non-distinctive manner by adults is supported.

The first experiment of Hess (1984), showed that when there is an automatic access to general semantic information and intentional demands were in their lowest levels, older adults utilized contextual information. On the contrary, young adults who have abundant processing resources showed context effects in all situations.

In a replication done by Robert Waring in 1997, two experiments conducted by Tinkham (1993) were investigated. In those experiments, Tinkham noticed the interference of semantically grouped sets of words in learning the new words. Tinkham found that the speed of learning new words in those learners who are given lists of words with common superordinate concept is slower than words without common superordinate concept. The findings of his study suggested that learners should not be presented with words from the same semantic set, but presenting words in semantically unrelated ones.

Robert Waring (1997) in his close replication of Tinkham's (1993), used Japanese word pair nouns which were paired with imaginary words. Three of the words had a shared superordinate concept and labeled "related words", while the other three ones did not share any common concept and called "unrelated words". The researcher conducted this experiment with the purpose of finding which sets were learned faster.

Twenty subjects, eighteen of which were native speaking Japanese and two non-natives, voluntarily participated in both experiments. All the participants had university education and aged from eighteen to mid-sixties. Participants were asked to learn two sets of six word pairs in experiment 2. The sets of words were labeled "related words" and "unrelated words" with the same intention as experiment 1.

Replicating Tinkham's findings, Waring found effects against learning semantically related words. He also concluded that presenting new words in semantically related sets interfere in learning new words. In his first experiment, words were presented in a mixed way and in the second experiment, as two separate lists. Something obvious in the first experiment was the production of incorrect words which were taken from within the same set. In related sets, this phenomenon occurred 25% of the time and 5% in unrelated sets.

Many EFL teachers, who believed in presenting words in semantically related sets, were surprised by the findings of these two papers. Although semantic relationships, thematic relationships and word associations are considerable in helping learners to build semantic networks and benefit learners in learning new words, but we must be aware of using these ways to not to create interference effects. Despite all these clear results, these findings are not yet acknowledged by a lot of course designers, course book writers and language teachers.

A study done by Mohammad Nowbakht (2015), investigates the comparative effects of presenting the new vocabulary items to students in semantically related groups vs. semantically unrelated groups on vocabulary receptive acquisition. Thirty participants, who were studying at the pre-intermediate level at the Iran Language Institute, were selected for this study. The researcher used The Total Placement Test published by Pearson Education (2006) in order to select a homogenized group of thirty students out of the larger group of 85. The students whose scores placed within one standard deviation above and below the mean score were selected as subjects of the study. Participants were selected randomly to two groups of the study consists of a control group and an experimental one. Each group consists of 15 male students from 13 to 16 years old.

The vocabulary items were chosen from the *Oxford Picture Dictionary* (OPD), the second edition. The chosen twenty vocabulary items were divided into four groups of five words. The words were selected out of 50 words selected from OPD. To make sure that the selected words are unknown to participants, a pre-test was done. The vocabulary items all were concrete words such as family members, furniture, animals and vegetables names. A pre-test and post-test were

designed by the investigator and all the stages of reliability was calculated through the KR-21 formula. The reliability of the pre-test was estimated 0.83. Total placement test was designed to determine if students were homogenous.

The significant difference between the experimental and the control group was proved at the end. The results of the study showed that the semantically unrelated sets facilitate receptive vocabulary acquisition better than semantically related sets. There might be some arguments for better performance of the control group. It has been argued that words are stored in mind semantically, which is the last destination of vocabulary learning and acquisition rather than a means of acquiring new words. When words are presented in semantically related groups, learners should be able to discriminate between their semantic properties in order to learn them (Mclaughlin, 1990, as cited in Erten and Tekin, 2008).

According to Higa (1963), Tinkham (1993) and Nation (2001), presenting words in semantically related sets may confuse learners, because they have to discriminate between similar words. This might interpret why similar words and also synonyms are more difficult for students to learn. The study argued why similar words may cause confusion by presenting the interference theory as another argument. It adds, specifically, vocabularies cause less interference and confusion for learners.

The other study done by Hamid Marashi and Atefeh Azarmi (2011) aims to compare the effect of presenting words in semantically related and unrelated sets in intentional and incidental learning contexts on Iranian EFL learners. The study was conducted among EFL learners who were 120 females selected among a total number of 180 bases on their performance on *Cambridge Key English Test* (KET) into four experimental groups randomly.

The findings of the study generally demonstrated that those who exposed to semantically unrelated sets outperformed those who exposed to semantically related sets of words. Additionally, it proved that intentional learning is more effective than incidental learning.

Yagoub Zahedi and Morteza Abdi (2012), who were the researchers of the other study, investigated the effect of semantic mapping strategy on EFL learners' vocabulary learning on forty Iranian learners' vocabulary' mastery. The participants selected randomly and assigned to a control group that received traditional direct translation of new words and an experimental group that received instruction on semantic mapping. Some debates have found the effects of memory vocabulary learning strategies. The findings of their research are equal with Kaelin (1991) who have studied the impacts of semantic mapping or the graphic organizer on the vocabulary learning of beginners and advanced adult learners of second language.

Although the participants of control and experimental groups were instructed with the same topic material, what the members of experimental group used more was a mnemonic graphic organizer strategy to acquired vocabulary. Results of the study revealed that the use of graphic organizers was effective with beginners ESL learners over the regular classroom instruction.

It was also as effective as the regular classroom technique in participants' vocabulary acquisition. The findings cleared that using semantic mapping strategy resulted in a significant difference in the participants' vocabulary learning.

The results of the study (Zahedi & Abdi, 2012) are also in congruent with Craik and Lockhart's (1972) theory. They claimed that the more cognitive energy a learner exerts when thinking and manipulating about a new word, the more likely it will be recalled and used (Craik & Lockhart, 1972; Craik & Tulving, 1975).

The depth of processing is important; that means students must be taught on how to process new information deeply. Hence, memory strategies on vocabulary acquisition involve learners, processing ability and better retention to recall new information effectively. The obtained findings of the study (Zahedi & Abdi, 2012) are also consistent with the results of Sagarra and Alba (2006), which indicates that semantic mapping as a memory strategy on vocabulary recall, engages learners in more cognitive activity, deeper processing, and more powerful retention in vocabulary acquisition.

The findings of the current study are in line with some other students (Etern & Tekin, 2008; Nation, 2000; Tinkham, 1993; Waring, 1997), which concluded that presenting the words in semantically related sets may actually impede new vocabulary learning.

As mentioned, the objective of this study was to compare the effects of two opposite and destine techniques of vocabulary teaching on long-term receptive vocabulary acquisition. The aim of the study was to examine the effects of both techniques on vocabulary retention in long-term memory.

In conclusion, the research lends support to the claim that teaching vocabulary through memory strategies facilitates storing and retrieving new vocabulary items.

2.1 The convenience hypothesis

Almost there exist no empirical evidence in favor of semantic clustering. Tinkham (1997) certifies that the prevalent usage of semantically organized word sets results rather from convenience than from any well-established theoretical basis.

Educationally some groups of authorities are believed in convenience hypothesis. First, clustering vocabulary in semantic fields is convenient for the language educators in which they will have to cover special pre-chosen areas of the national and overall curriculum with language classes. In this way it is easy to supervise whether the areas concerning lexical instruction are covered in that due time. In the following, material designers aim to produce a set of materials which is organized in semantic fields, since that kind of material responds to needs of educators in educational system.

Another area in favor of the convenience hypothesis is designing of L2 exercises. The presentation of new vocabulary in semantically and syntactically related sets are supported by this kind of single word recognition exercise. For example, "she bought a ____ dress" (noted by the L1 equivalent of the intended word), it is very convenient the new vocabulary in semantic clusters, which would be, for example, colors or clothing materials. Convenience, with this interpretation, seems to be the only rational reason to present new vocabulary for L2 learners in semantic clusters.

2.2 Interference theory

Is it easy for learner to remember a group of new words if they are too similar? So far, two theories introduced about the similarity of words that will be discussed below. The interference theory "hypothesizes that the more similarity between selected information, the more difficulty of learning and remembering that selected information" (Tinkham, 1993). This delineated difficulty of learning a list which its words are all nouns and belong to a same concept. This difficulty was explored by Higa (1963), Mc Geoch and Mc Donald (1931), and Tinkham (1993; 1997). They found out supporting reasons for the interference theory through their related studies. They inferred that too similar words interfere with each other and get in the way of solid learning. Interference theory is a tenacious opponent of semantic clustering. The interference theory and the distinctiveness hypothesis which "relates ease of learning to the distinctiveness of the documentation to be acquired (without similarity) (Tinkham, 1993, p.373) " are in contrasted with each other.

Tinkham hypothesizes it would be greater to learn new words unrelatedly. Eliminating interference factor in the school setting increases the degree of success in lexical items presented should be as distinct as possible new word learning.

2.3 Distinctiveness hypothesis

Another piece of evidence against learning new words by use of semantically related word lists is the distinctiveness hypothesis, following Higa's interference theory (Eysenck, 1979). This hypothesis argues lexical items presented should be as distinct as possible to be acquired better. The investigations of the effects of distinctiveness and memorizing demonstrated different effects of semantically related lexicon (Hunt & Worthen, 2006; Schmit, 1985).

The hypothesis suggests selecting and presenting words from a variety of word classes (nouns, verbs, adjectives etc.) and different semantically related contents due to facilitate vocabulary acquisition and recalling them. Lexical item recognition, acquisition, and retention facilitate when the level of distinctiveness on orthography and phonology increase (Wilcox & Medina, 2013).

3. Methodology

3.1 Participants

Sixty native speaking Iranians in intermediate proficiency in Isfahan, Iran were used as participants in the experiment. The participants were either of researcher' acquaintance or were studying English as foreign language at a language educational institution in Isfahan. They all accepted to participate in this study. Almost all have a range in age from sixteen to twenty-one. The diversity of the participants was not an important factor in the study as it was a within participants design.

3.2. Instrument

A proficiency test was administered to see the level of learners participated in the study and keep the homogenization between groups. In this study three types of instruments were used to collect the research data. They were as follows:

1) Oxford Picture Dictionary (OPD) (2006) to test the first experimental group who were tested by semantically related clusters of words

2) 504 Absolutely Essential Words (1996) book to test the second experimental group who were tested by semantically unrelated words

3) Reading Through Interaction, Book 3, by B.Wegmann, M.Knezevic, and M.Bernsten (2001), which used to test the control group by a mixed set of semantically related and unrelated new words clusters

3.3 Procedure

Having analyzed the results of the proficiency test to ascertain the homogeneity of three groups, the researcher selected two of them as the experimental groups, and the other as the control group. At first, the researcher randomly selected 60 learners, at the age of 16-21 at the intermediate level of EGP in language institute in Isfahan participants were explained about the procedures clearly. The procedure was done during four weeks of two month and a half of the term. Three sessions were administered every week. The researcher taught five concrete semantically related words from OPD (2006) to the first experimental group at the end of each session. She was asked to teach five semantically unrelated words from 504 (1996) to the second experimental group. Control group learners received six reading during sessions from Reading Through Interaction, Book 3, by B.Wegmann, M.Knezevic, and M.Bernsten (2001). Before starting the treatments, to ensure that participants did not already know the clusters of words, three pretests were designed by the researcher, administered by the teacher singly. The first and second experimental groups were pretested by two 30 items multiple choice tests. The vocabulary pretests which were based on OPD (2006) and 504 Absolutely Essential Words (1996). A 30 item test contained vocabulary of the reading texts that were intended to be red in control group.

In the first experimental group the teacher taught five of 60 animal names from OPD (2006) that were selected to be taught each session. First, she defined the intended word and tried to motivate learners to guess the animal name. Then,

she showed the animal picture to the learners and completed the guidance. She asked learners to say any information they have about that animal. The selected words were chosen from the first five lessons of 504 (1996) were taught to the second experimental group. In the second experimental group, first the teacher wrote example sentences on the board with underlined intended words. Then, she asked learners to read sentences and guess the underlined word meanings one by one. The teacher confirmed answers or modified by presenting some clues to the learners. At the end, she wrote the word phonetics on the board and explained more to complete the word meanings. Similarly, the teacher repeated this process for the next four words.

In the control group, the learners were received some printed versions of reading from Reading Through Interaction, Book 3, by B.Wegmann, M.Knezevic, and M.Bernsten (2001), with some blanks in each reading texts. Then she asked learners was asked to read one sentence and give the best option as an answer of the blank. After checking the correctness of the given answer she asked other learners to present their answers too. At the end they had a complete reading text.

At the end of the term, the researcher collected the second set of quantitative data as posttests. The 30 items multiple choice posttests were contained the same taught words, but in distinctive contexts from pretests. By comparing the results of pretests and posttests of each three groups with SPSS, the researcher concluded some consequences.

4. Data Collection Procedure

Semantic clustering of words does not exert a significant effect on the acquisition of vocabulary by Iranian EFL learners.In the hypothesis, the impact of semantically related word clustering is examined on the ability of vocabulary learning. The statistical assumptions related to this hypothesis can be presented as the following:

$$\begin{cases} H_0: & \mu_2 = \mu_1 \\ H_1: & \mu_2 \neq \mu_1 \end{cases}$$

μ_1 and μ_2 show the mean of the pretest and posttest scores, respectively. Accepting the null hypothesis shows that the research hypothesis is confirmed. To test the hypothesis, pretest and posttest scores of the first experimental group were compared. The statistical distribution of the scores was examined before this comparison. For this purpose, the results of Kolmogorov-Smirnov test is shown in the following table (Table 4.1).

Table 4.1 Kolmogorov-Smirnov Test Result

Variable	N	Test Statistics	Significance Level
Pretest Scores	20	0.542	0.931
Posttest scores	20	1.039	0.230

According to the achieved results of Kolmogorov-Smirnov test (Table 4.1), both of the two pretest and posttest scores of the first experimental group follow a normal distribution. Therefore, to compare the two sets of scores, t parametric method can be used.

Due to the nature of the scores, two scores were extracted for each learner. Hence, a significant relationship is predictable between pretest and posttest scores. The following table (Table 4.2) shows the Pearson's correlation coefficient between two sets of scores:

Table 4.2 Pearson Correlation Coefficient

	Pretest Score	Posttest Score
Pretest Score	1	0.924
Posttest Score	0.924	1

According to the results of Pearson's correlation coefficient (Table 4.2), there is a strong correlation (0.924) between the scores of pretest and posttest of the first experimental group. This correlation is statistically significant (sig. <0.05).

To define the different groups, Duncan's multiple range test is used. The results of this test has been shown in the next table (Table 4.9). This test, put these groups in a category that there is no significant difference between their posttest mean score.

Table 4.3 The Results of Duncan's Test

Group	Mean Score of Posttest
Experimental group1	17.35[a]
Experimental group 2	22.35[b]
Control	18.10[a]

According to the results of Duncan's test (Table 4.3), the two groups of experimental 1 and control are categorized in the same level (level a), and the second experimental group is in level b. This categorization shows, there is no significant statistical difference between the means of the posttest scores of the first experimental group and control group. But, the second experimental group has a significant difference with the two other groups.

The following figure (Figure 4.1) shows the mean of posttest of three groups. The category of each group has been defined in this graph.
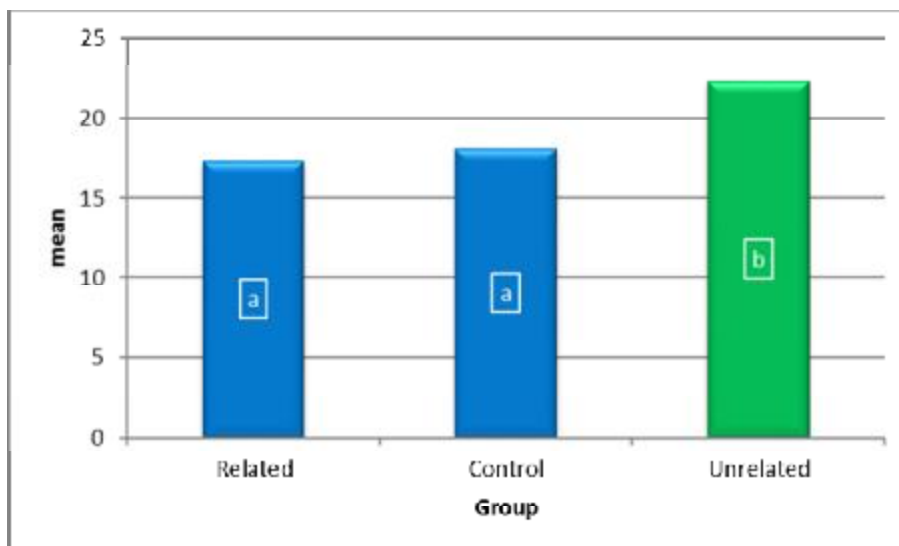

Figure 4.1 The mean of posttest of three groups

The comparison of the results revealed that the performance of the learners of the second experimental group was better than the first experimental group and the control group

The reliability was checked with alpha Cornbach method and the index was estimated to by 0.72 the validity was checked by two experts.

5. Conclusion

The empirical evidence gained from this study supports some of the following pedagogical implications: The positive effects of semantically unrelated clusters of words on the maximization of vocabulary acquisition of learners inspire teachers in conducting the vocabulary teaching part in language classes. Teachers can also design creative vocabulary tasks based on the dissimilar nature of vocabularies to facilitate acquisition.

The ease of use and convenience of vocabulary acquisition through semantically unrelated clusters benefit also individual learners who are in shortage of time for going to language classes and want to expand their knowledge of vocabulary.

The undeniable benefits of presenting words through semantically unrelated clusters is conspicuous for syllabus designers and textbook writers. Through this technique, they can design more effective textbooks for intermediate EFL learners in which words are presented in semantically unrelated sets. Even this method can be used in designing the course books of English for specific purposes.

Due to the administration of these techniques in the experimental groups, one of the most important limitations that the researcher faced was the fastidious procedures that language institutes had. Asking the researcher to pay money for the permission to conduct the research and not cooperating with the researcher were some of them.

Another restriction was the time limitation. As conducting these procedures were at the end of each class, consequently, learners were somehow bored and were not as energetic as the beginning of the class.

The participants of this study were young intermediate learners, and they were able to learn more words in every session. But, due to the time restriction the researcher had to limit her procedures to just one category of OPD, the first five units of 504, and six reading passages of "Reading Through Interaction".

For further research one can come up with expanding the scope of this study to a larger sample size of Iranian EFL participants, choosing different geographical areas to investigate the probable effects of different cultures on this technique, and on different levels of language proficiencies.

The researchers of other languages can also replicate the experimentation of this study to find out whether or not the results can be the same. Another area for further research can be exploring the extent to which learners' background variables such as other ages of learners, and the gender make differences in learners' responses.

It is also recommended to other researchers, in case of doing such research in the same or other proficiency levels and with learners at different ages or in a single gender class, to design a teacher's guide which focuses on how to present and instruct vocabularies for that system. As, not having a guide may lead to controversial issues.

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