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Learning English Vocabulary and the Effect of Basic Level from Cognitive Perspective

Masoud Dehghan[1]*

1. Assistant Prof. of Linguistics, Dept. of English and Linguistics, University of Kurdistan Sanandaj, Iran.

* Corresponding Email: dehghan_m85@yahoo.com

Abstract – The present study focuses on the English language vocabulary learning from cognitive linguistics perspective. This paper aims to investigate some of the ways the various theoretical insights of cognitive linguistics can practically be applied to language teaching at English departments. One of the most important issues in English language learning and teaching research has always been vocabulary learning and teaching. This study discusses one main principle based on cognitive linguistics that is categorization: our ability to identify entities as members of groups (Evans & Green, 2006). The two features pertaining to the concept categorization examined in this research are the basic level effect and prototype. The present study investigates the phenomenon that among the members of a conceptual category, the prototypical members are psychologically more salient than the marginal ones. The theoretical framework used in this study is based on the theoretical considerations of two cognitivists called Dirven and Verspoor (2004). Also, Participants participating in this test were at the second term of one of the universities in Kermanshah, Iran. The findings revealed that the basic vocabulary learning and teaching are of particular importance.

Keywords: cognitive linguistics, categorization, basic level effect, English vocabulary learning

1. INTRODUCTION

Cognitive linguistics (henceforth CL) is firmly rooted in the emergence of modern cognitive science in the 1960s and 1970s, particularly in work relating to human categorization, and in earlier traditions such as Gestalt psychology. With no doubt, vocabulary is the most important component of language to language learners. The importance of vocabulary learning in the field of English language learning is obviously stated in Gass and Selinker (1994) claiming that "the lexicon may be the most important component for language learners" (p. 270). Also, this view that naturally language is an instrument for communication has further moved vocabulary learning to the center of English language learning. This vision that vocabulary is central to language is clearly stated in McCarthy (1990):

> No matter how well the student learns grammar, no matter how successfully the sounds of L2 are mastered, without words to express a wider range of meanings, communication in an L2 just cannot happen in any meaningful way. (p. viii)

Categorization is the cognitive preliminary for the formation of concepts, and cognitive concepts, as well as the invention of words. In cognitive linguistics, concepts are mental components that, on the one hand, correspond to specific words in the linguistic system and, on the other hand, refer to classes of things in the world divided by one of the brain's fundamental cognitive faculties called categorization. The relationship between concepts, words and categorization can be stated by the categorization of concepts through which people divide things into groups in their mental world.

Generally, linguistics has depicted an approach change from the Generative linguistics to the Cognitive linguistics. One of the main discrepancies between these two approaches concerns the relationship between language and cognition. In generative linguistics, language is showed as "an autonomous, self-containing system" (Chomsky, 1986, p. 24) considered autonomously of any human cognitive faculties or its users. In the Cognitive Linguistic approach, however, language is "an integrated part of human cognition which operates in interaction with and on the basis of the same principles as other cognitive faculties" (Dirven, 2004, p. 17). In Cognitive Linguistic approach, language issues are investigated in terms of their relations to other cognitive faculties such as conception, perception, categorization, reasoning, abstract thought, and inference as well as to other cognitive domains such as bodily and mental experiences, image-schemas, viewing frames, etc. (Ungerer & Schmid, 1996). CL provides a new framework within which language can be described and explained "in the larger context of both human cognitive capacities and cultural preoccupations" (Jing-Schmidt, 2010, p. 157).

1.1. Significance of the Study

The present study investigates the phenomenon that among the members of a conceptual category, the prototypical members are psychologically more salient than the marginal ones. The basic level effect, as a salient feature, can be well-effective in learning English language vocabulary as they do in learning first language vocabulary.

In order to live in this intricate world, we need to categorize things into groups. Although we categorize things, we focus on their similarities and ignore as far as possible the differences. It is through the concept categorization that we get to know the world around us and most important of all, make a systematic and ordered version of the world out of a chaotic one. For example, a desk and a table, although perceptually different from each other, can be grouped together under the conceptual category of FURNITURE. One of the most important tenets of cognitive linguistics is that everything in language is permeated with meaning. Meaning is considered to be a matter of conceptualization of how particular language users construe the world anthropocentrically, subjectively and under the influence of a specific cultural surrounding they find themselves in.

Another feature which is often associated with that of polysemy is known as ambiguity. While ambiguity relates to the distinctiveness of a distinct word-meaning, also known as a sense, polysemy concerns the relationship between distinct (i.e., ambiguous) but related word-senses. For example, recent work on the English preposition *over* has considered the

meanings below, while related, are distinct and thus are stored in the mental lexicon as distinct sense units (see, in particular, Lakoff 1987, Brugman & Lakoff 1988; Tyler & Evans 2001, 2003).

(1)

a. The picture is *over* the mantelpiece [above]

b. The tank drove *over* the bridge [across]

c. The picture is *over* the hole in the wall [covering]

d. The ball landed *over* the wall [on the other side]

1.1.1. Theoretical Considerations

This study discusses one main principle based on cognitive linguistics that is categorization. The two features pertaining to this concept examined in this research are the basic level effect and prototype. Under the conceptual model of word meaning, meanings are "represented by mapping words onto conceptual structures" (Murphy, 2002, p.388). This conceptual pattern of English language vocabulary meaning and learning, conveying an intrinsic relationship between vocabulary and categorization, is adopted to define English language vocabulary learning in this study. The theoretical framework used in this study is based on the theoretical considerations of two cognitivists called Dirven and Verspoor (2004). On the basis of the findings that things are most easily categorized at the basic level and that words at this level are most easily learned and used by people in Persian language, as their first language, it is hypothesized that English words at the basic level are preferred by English learners when they are simultaneously introduced to English language words of a stimulus at various levels of categorization (i.e., superordinate, basic, and subordinate).

2. DATA ANALYSIS

In this study, the basic level effect on English vocabulary learning was tested. The findings revealed that the basic vocabulary learning and teaching are of particular importance. So, it can help the language learners in learning and also language teachers in teaching. Participants in this study were at the second term of one of the universities in Kermanshah, Iran. Also, they were familiar with the notion that a thing can be designated by words of different levels of categorization, i.e.; super-ordinate, basic and subordinate levels. In this research, the following two methods were used to test and teach vocabulary based on the cognitive approach and the basic level effect were statistically analyzed.

Method 1: In this method, the participants were said to start learning those English words were presented.

Method 2: In this method, the participants were said to remember just one of the three words in every set of words. And then on the computer screen, we asked the participants to find the best English word for every picture to name and call them in English.

Four groups of students took part in the test. Three groups underwent method 1 and one group underwent method 2. Group sizes were n = 16, n = 13, n = 11, and n = 17 (total n = 57).

2.1. The Basic Level Effect

The present study investigates the basic level effect on English vocabulary learning. The five word sets of a three-level taxonomic hierarchy (see Table 1 for the target words in the test) were selected. I would like to tell the readers of this article that the three English words in each set were selected with this condition that they were either all familiar or all unfamiliar to the learners participating in the experiment. The five target sets consisted of those for *table, triangle, trousers car, rose.* Among the five word sets, all the target English words in the *triangle, trousers*, and *car* sets were new to the participants, while those in the *table*, and *rose* sets were already acquired by and hence familiar to the participants. These 15 English words were accompanied by their respective Persian equivalents.

Table 1. ***The basic level effect in five sets of English words***

SETS	SUPERORDINATE	BASIC	SUBORDINATE	FAMILIARITY
table	furniture (Mobl)	table (miz)	kitchen table (Miz-e-ashpazkhune)	familiar
triangle	geometric graph (Tasvir-e-hendessi)	triangle (mosalas)	right-angled triangle (mosalas-e-rast gush)	unfamiliar
trousers	garment (pushak)	trousers (shalvar)	jean (shalvar-e-jin)	unfamiliar
car	Vehicle (vasilay-e- naghliye)	car (mashin)	sports car (Automobil-e-korsi)	unfamiliar
rose	flower (gol)	rose (gol-e-roz)	yellow rose (roz-e-zard)	familiar

Generally speaking, language learners were divided into four groups with 57 participants. Although the content of the learning material for the five groups in the experiment was the same, the precise instructions given and the order in which the three English words with their Persian equivalents were presented differed for each group. Groups 1 to 3 participated in method 1 of the hypothesis testing. Participants in these three groups were told to try and remember all the English words of the picture shown on the slide. Their answers to the pictures which I showed them to let us to assess whether language learners would name the pictures with the English language basic level word rather than superordinate

and subordinate level words. Words were presented with different orders, e.g.; in group 1, 2, and 3 the first words were superordinate, subordinate and basic respectively.

Although in group 4 the finding reflects the learners' intentional choice of English language basic level words as learning targets over the others the similar findings in groups 1 to 3, where learners were told to learn and remember all of the given words, on the other hand, reveal that English language learners also subconsciously would rather the English basic level words to the others.

Also, the following table, i.e., Table 2, shows the frequencies, percentages, and Chi-Square statistics of the responses at the superordinate, basic, and subordinate levels within each of the five groups.

Table 2. ***The frequencies, percentages, and Chi-Square statistics of the responses at the superordinate, basic, and subordinate levels within each group***

Levels of words	Group1 N=16	Group1 N=13	Group1 N=11	Group1 N=17
superordinate	%7.18 (3)	%2.14 (2)	%10 (1)	%7.11 (2)
basic	%8.68 (11)	%3.64 (9)	%70 (7)	%9.58 (10)
subordinate	%5.12 (2)	%5.21 (3)	%20 (2)	%5.23 (4)
missing answers	-	-	-	%5.9 (1)
Total	%100 (16)	%100 (13)	%100 (11)	%100 (17)
Chi-Square	9.125	4	6.2	11.471
df.	2	2	2	3

With the view at the frequency statistics in above table 2 shows that most answers fall into the basic level category in each group. So, there should be taken to investigate the presence of the basic level effect in each of the two methods used in the test. As shown in Table 2, in each of the four groups, the majority of the Persian learners' answers to the five pictures fall into the category of basic level answers, with the basic level answers being 68.8% in Group 1, 64.3% in Group 2, 70% in Group 3, and 58.9% in Group 4. These frequency statistics confirmed the prediction of the hypothesis in Procedure 1, namely that English language learners, after being simultaneously exposed to English language words at the super-ordinate, basic, and subordinate levels, would be more likely to name pictures with the basic level word rather than the subordinate and basic level words. Recall that the words were presented to Groups 1, 2, and 3 in different orders. The words on the top of the slides in Group 1 were all super-ordinate words; those in Group 2 were all subordinate words; and those in Group 3

all basic level words. In group 4 followed method 2 Participants were specifically told to choose one English word out of the three per set to remember.

Table 3 shows the frequencies, percentages, and Chi-Square statistics of the learners' answers at the super-ordinate, basic, and subordinate levels in each of the five target word sets, i.e., the sets of table, triangle, trousers, car and rose.

Table 3. ***Frequencies, percentages, and Chi-Square statistics of the three responses in individual word sets***

Levels of words	table N=57	triangle N=57	trousers N=57	car N=57	rose N=57
superordinate	1.7% (1)	10.5% (6)	12.3% (7)	7% (4)	14% (8)
basic	%89.5 (51)	59.7% (34)	70.1% (40)	79% (45)	66.7% (38)
subordinate	%8.8 (5)	28.7% (16)	17.6 (10)	14% (8)	19.3% (11)
missing answers	-	1.7% (1)	-	-	-
total	100% (57)	100% (57)	100% (57)	100% (57)	100% (57)
Chi-Square	81.263	44.684	35.053	53.789	28.737
df.	2	3	2	2	2

On the basis of the above table one would tell that most answers have placed at the basic level of categorization, with the percentages of the basic level answers in each of the five word sets being 89.5%, 59.7%, 70.1% , 79% , and 66.7% for the word sets of table, triangle, trousers, car, and rose respectively. Therefore, this finding corresponds to the previous one obtained in the analysis of group answers, and then supports the hypothesis of this test regarding the existence of the basic level effect in English language vocabulary learning.

Also, at a closer look to table 2, one can recognize the tendency that English language learners would rather subordinate words to super-ordinate ones. The frequency statistics in the word sets for table, triangle, javelin throw, and crane show that there is a higher chance for learners to call a given stimulus by its subordinate than by its super-ordinate name. In other words, when L2 learners are confronted with the choice between a general name and a specific name in a picture naming task, they prefer to use the specific name.

Four questions are proposed here:

1- Is there any meaningful difference between answers to the words in the first group at three levels; super-ordinate, basic, and subordinate levels?

Chi-Square Test

Frequencies

word

	Observed N	Expected N	Residual
superordinate	3	5.3	-2.3
basic	11	5.3	5.7
subordinate	2	5.3	-3.3
TOTAL	16		

Test Statistics

	word
Chi-square	9.125[a]
df	2
Asymp. Sig.	.010

With regard to the significance level to conclude that the difference is significant. Because Sig=0.010<0.05

2- Is there any meaningful difference between answers to the words in the second group at three levels; super-ordinate, basic, and subordinate levels?

Chi-Square Test

word

	Observed N	Expected N	Residual
superordinate	2	4.7	-2.7
basic	9	4.7	4.3
subordinate	3	4.7	-1.7
TOTAL	14		

Test Statistics

	word
Chi-square	6.143[a]
df	2
Asymp. Sig.	.046

With regard to the significance level to conclude that the difference is significant. Because Sig=0.046<0.05

3- Is there any meaningful difference between answers to the words in the third group at three levels; super-ordinate, basic, and subordinate levels?

Chi-Square Test

word

	Observed N	Expected N	Residual
superordinate	1	3.3	-2.3
Basic	7	3.3	3.7
subordinate	2	3.3	-1.3
TOTAL	10		

Test Statistics

	word
Chi-square	6.200[a]
df	2
Asymp. Sig.	.045

With regard to the significance level to conclude that the difference is significant. Because

Sig=0.045<0.05

4- Is there any meaningful difference between answers to the words in the group 4 at three levels; superordinate, basic, and subordinate levels?

Chi-Square Test

word

	Observed N	Expected N	Residual
superordinate	2	4.3	-2.3
basic	10	4.3	5.8
subordinate	4	4.3	-.3
missing	1	4.3	-3.3
TOTAL	17		

Test Statistics

	word
Chi-square	11.471[a]
df	3
Asymp. Sig.	.009

With regard to the significance level to conclude that the difference is significant. Because

Sig=0.009<0.05

So, as previously explained, with regard to the frequencies one can say that there is a significant relationship between vocabulary learning and basic level effect.

3. CONCLUSION

The analysis of participants' English answers to the pictures shows that in Persian learners' minds, the relationship between stimuli and their English words tends to be first established and most readily activated at the basic level of categorization. The findings of the statistical analyses support the questions that English language basic level words are preferred if English language learners are given the choice between answers at the super-ordinate, basic, and subordinate levels in a picture naming task. In other words, Frequency statistics of the answers within all four groups indicate that English basic level words were the ones most easily used by Persian learners of English in the picture naming task. Generally speaking, the psychological salience of the Persian language-based basic-level concepts does have their effect on English language vocabulary learning. To sum up, Persian language learners of English when faced with the task of naming a stimulus in the English language, tend to identify the given stimulus at the basic level of categorization.

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