THE DECOMPOSITION VIEW IN LEXICAL COMPETENCE IN L1 AND L2

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Abstract

Psycholinguists are interested in how words are stored in human memory. The question as to whether words are stored as single root words or whether they are stored along with the affixes still remains a controversial issue. Aitchison (1987) believes that each word has a separate entry. Mackay (1978) and Taft (1981) hold that words are made of constituent morphemes. When we listen, we decompose the morphemes and when we speak, we combine them to make multimorphemic words. The decomposition view claims that only the root is stored in memory. To hypothesise this claim, a group of 50 students at the intermediate level at the preparatory department of a state university situated on the western coast of Turkey were selected. They were taught 10 root nouns and verbs and 10 complex nouns and verbs they are not familiar with. Then to see how the morphological complexity affected lexical access and which type of words were better remembered, they were tested on these words. Then the same group was given 10 simple and 10 complex words in the mother tongue and their answer times were compared. The results shed light on the validity of the decomposition theory, showcasing we remember the words in roots better.

Keywords: Lexical Access, The Decomposition View, Morphological Complexity, Priming, Language Learners.

1.INTRODUCTION

Learning a 'word' typically involves learning more than one form–meaning mapping (Boers, 2013, 209).

> Vocabulary knowledge extends beyond single words. Since the advent of corpus linguistics, it has become increasingly evident that most words prefer the company of some other words over that of near synonyms. This Idiom Principle – as opposed to the Openchoice Principle (Sinclair, 1991) – shows up in a panoply of word partnerships and multiword units, such as collocations (make an effort, a warm welcome, utterly disgusting), compounds (peer pressure, love handles), multiword verbs (turn up, follow through with), social interaction routines (nice to meet you, how are you doing), cliches (live and learn, publish or perish), idioms (jump the gun, close ranks), and discourse organisers (on the other hand, having said that).

On daily tasks lexical access is transparent and unconscious, speakers are not even aware of how they choose the lexical items to convey their thoughts, feelings and ideas. Spoken words have phonological structures and follow the rules. Languages have rules for what constitutes permissible strings of sounds in syllables and words. Starting by birth, we are exposed to such lexical items that fit into the rules and we manage to access them. There are five factors affecting lexical access (Jay, 2003, 120):

a. Frequency: Lexical frequency deals with how speakers take time to monitor lexical items. Low frequency words take long time to process and high frequency words are easily accessed and frequency plays a pivotal role in lexical access. Lexical frequency deals with how speakers take time to monitor lexical items. Low frequency words take long time to process and high frequency words are easily accessed and frequency plays a pivotal role in lexical access.

b. Semantic priming: The second feature is semantic priming and when a word is presented, it activates a semantically related associate. Word associations affect lexical access strongly. The focus is on the semantic relatedness of the words. A related word will prime or speed up the recognition of the

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second. A word like "cheese" is judged faster when it is primed with "bread" rather than when it is primed with "teacher".

c. Concreteness: The third aspect is concereteness. All words evoke imagery but concrete words leave the indelible traces in the minds better. Concrete words like "chair, teacher, apple" evoke more concrete images than words such as "justice, democracy, pain". Bleasdale (1987) focuses on the impact of the concreteness on recalling the lexical items and finds consistent evidence of an advantage or concrete words.

d. Emotional content: The fourth aspect, emotional content, helps the recovery of the words. The affective lexicon such as "like, love, enjoy" are easily accessed. Vakoch and Wurm (1997) maintain that words in the general lexicon are assembled by meaning but their emotional properties are secondary. Dimensions are evaluation (good-bad), activity (active-passive) and potency (strong-weak). These dimensions are used as they contribute to the survival of the organism. They state that a sense of danger is activated when the words connote strength, badness and quickness.

e. Morphological complexity: The last feature is morphological complexity. Here there are two ideas about accessing the words: they are stored as roots or multimorphemic words. When we produce or comprehend a lexical item, we do it as a whole not via root words. The other hypothesis is that words are made up of constituent morphemes that function as small units (MacKay 1978, Taft, 1981). When we listen to something, we break down and decompose words into their small units. When we speak, we recombine morphemes to make multimorphemic words. The decomposition view holds that we only store roots in memory. The purpose of this study is to investigate whether the decomposition theory holds true or not.

2.METHODOLOGY

A group of 50 students aged between 18-20 at the preparatory department of a state university located on the west coast of Turkey were selected. There were two hypotheses :

a. The decomposition theory is still valid.
b. Female learners are better at the lexical achievement tests than male ones.

After getting consent forms, they were taught 10 pseudo root nouns and verbs, 10 pseudo complex nouns and verbs. Then to see how the morphological complexity affected lexical access and which type of words were better remembered, they were tested on these words online for 5 seconds. The online test was prepared in such a way that if a student could not answer the gap filling question in 5 seconds, the next question showed up. The pseudo words were selected from Chinese as Chinese lends itself to root and multimorphonemic words easily. The words chosen are listed below. The researcher used the same vocabulary teaching lesson plan consisting of lead-in, clarification of meaning, contextualization, repetition and personalization for all 10 words.

zhōu (week) X Yuè (month)

Chī (eat) X Hē (drink)

Néng (can)

Yòng (use)

Zuò (do) X Zŏu(go)

lái (come) X chu (go)

piàoliang (beautiful)

Bùcuò (not bad)

Hăokàn (good looking)

Zăoshàng hăo (good morning) X Wănshàng hăo (good evening)

Hăochī! (delicious)

Xĭhuān (like) X Făngăn (dislike)

Gāoxìng (happy) X Shāngxīn (sad)

The same students were given a reading passage to read twice in the second week. Then they were tested to see how quickly they responded to ten Turkish simple and complex words online within 5 seconds.

3. RESULTS AND DISCUSSION

The reliability of the pseudo vocabulary test was found to be .857, which is quite high and the reliability of the Turkish vocabulary test was .930. In the tables, the first 5 questions were about the root words and the last 5 were complex.

Table 1: Descriptive Statistics of the Pseudo Words

	N	Min	Max	Mean	Success %	Std. Dev.
q1	50	,00	1,00	,87	43	,34
q2	50	,00	1,00	,68	34	,47
q3	50	1,00	1,00	1,00	100	,00
q4	50	1,00	1,00	1,00	100	,00
q5	50	,00	1,00	,81	40	,40
q6	50	,00	1,00	,87	43	,34
q7	50	,00	1,00	,75	37	,44
q8	50	,00	1,00	,81	40	,40
q9	50	,00	1,00	,93	46	,25
q10	50	1,00	1,00	1,00	100	,00
Valid N (listwise)	50					

When the means are compared in Table 1, it is seen that all students answered two root words (q3 and q4) and one complex word (q10) accurately. However, overall, the means of the first 5 words (simple words) were higher than those of the complex words (4.36 versus 3.36).

Table 2: Descriptive Statistics of the Turkish Words

	N	Min	Max	Success rate (%)	Std. Dev.
q1	50	1,00	1,00	100	2,31
q2	50	1,00	1,00	100	2,63
q3	50	1,00	1,00	100	1,02
q4	50	1,00	1,00	100	2,43
q5	50	1,00	1,00	100	2,44
q6	50	1,00	1,00	100	2,26
q7	50	1,00	1,00	100	1,40
q8	50	,00	1,00	75	1,33
q9	50	1,00	1,00	100	1,15
q10	50	1,00	1,00	100	1,15
Valid N (listwise)	50				

The descriptive results of the Turkish test show that students did not have any variation and except for one complex word in the 8th question, they answered all the words correctly within the given amount of time (5 seconds).

To find out whether gender played a role or not, a t-test was conducted and the significance (p value) was found to be .000 in Table 3, which showed girls to be more successful in the vocabulary recognition test.

Table 3: One-Sample Test for Gender

			Test Value = 0		95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
gender	10,967	15	,000	1,31250	1,0574	1,5676
total	50,319	15	,000	8,75000	7,6071	9,8929

The first research question as to the success level of the root words whether students remember the root words more clearly or not highlights the validity of the decomposition view because of their overall means (4.36). Lexically speaking, the words are structurally categorized into simple, complex and compound and cognitive psycholinguists believe that we either have one word entry for each word or different entries. A word family consists of a lemma and its derivations. For example, argue, argues, argued, arguing, argument, arguments, arguable, argumentation and argumentative make up one word family. It is sometimes assumed that if a learner knows one

member of the family, its relatives will be understood as well. This, however, cannot be taken for granted and this current study shows that even complex words such as "gāoxìng" can be retained in mind without prior knowledge of the root words and this is in line with the arguments by Schmitt & Zimmerman (2002). In the related literature there is great inconsistency. While Rueckl and Rimzhim's (2011) and Perea and Carreiras's (2006) findings suggest that there is a direct access route to the representations of the whole word, Christianson et al. (2005) and Duñabeitia et al.'s (2007) results suggest that there is not. This study's data shows that morphologically complex words can be accessed as full forms. Of course, it should not be concluded from this that morphologically complex words are not decomposed. As outlined earlier, there is a large body of evidence in favour of morphological decomposition (Longtin & Meunier, 2005; Rastle et al., 2004). Rather our results are in line with models of visual word recognition that emphasize the simultaneous activation of whole-word and morphemic representations. Hence, the hybrid model can be considered in lexical recognition : word recognition can be achieved in parallel through a whole-word route as well as a decompositional pathway to maximize the reader's chances of successful word processing through simultaneous use of all mechanisms available to them.

The other research question aimed at seeking to investigate if gender had any significant effect on language learners' vocabulary learning. Therefore, a null hypothesis was formulated to answer this question. Results indicate that there was a statistically significant difference between male and female learners regarding their vocabulary scores to the advantage of the female learners (p value is ,000). Hence, the result is in line with previous research which demonstrate gender differences in several areas of vocabulary acquisition (Jiménez, 1997; Jiménez & Moreno, 2004; Jiménez & Ojeda, 2008).

Bowers and Kirby (2010) conclude that "morphological instruction should be organized to facilitate students' ability to identify the bases of words" (534) like Kuo and Anderson (2006) who found that identifying stems is the morphological skill most related to reading development particularly in the elementary grades.

4. CONCLUSION

This study aimed at investigating primarily whether the decomposition theory is applicable in L1 and L2 and secondly whether there are gender differences in the achievement scores of the students. The results yield that students recall the roots better, which paves the way for a convergence between constructivism and contextual vocabulary teaching. Moreover, the evidence presented in the present work provides clear constraints on theories of how readers process morphologically simple and complex letter strings. It is easy to argue that morphologically complex words can be directly retrieved as full forms but overall results are consistent with the theory that morphologically complex words are decomposed at early prelexical stages in visual word recognition, which is inconsistent with the studies of Giraudo & Grainger, 2001, 2003; Beyersmann, Coltheart & Castles, 2012.

Although an increasing number of studies have argued for viewing vocabulary knowledge as multidimensional (Henriksen, 1999; Laufer et al., 2004), memory and morphemic structure play a crucial role. If there is an emphasis on the morphophonemic units in the classroom instruction, that facilitates the vocabulary learning process. All in all, any statement of the word as the unit of meaning requires a sophisticated approach to include the morphemes. To quote Nation (2001) the main advantage of chunking is speed whereas the disadvantage is storage. As long as learners have this storage, namely, memory , they can quickly learn the contextualized morphemic words.

Recognizing a word is seen as partly a memory-driven process, in which words from the recently read text and the propositions they encode are highly accessible in memory. A word, as it is read, resonates with these memories, and connections are made without an active construction process, which can later tune and correct the representation. This process is adaptive for comprehension insofar as what is activated in memory is relevant and consistent with the morphemic units of the word, which can, in return, continue to exert an influence on comprehension (O'Brien, Cook, & Guéraud, 2010; O'Brien et al., 1998). Theoretically, the argument of this study entails a closer view of the interaction between the word identification system and the comprehension system that is mediated by decomposition view and memory and manifest in word meaning processing.

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