

The Role of Language Proficiency in Word Association Behavior among Jordanian EFL Learners

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Abstract

The current study aims to investigate the role of L2 proficiency in the learners' word association behavior in an attempt to get better understanding of how their mental lexicon is structured. Therefore, 20 low-level, 20 mid-level, and 20 high-level Jordanian EFL learners are presented with an English twenty- verbs word association test (WAT), in order to see whether there are similarities or differences between the results of the students in these distinct groups. The main principal of this test is to present the subjects with a number of stimulus words and then to ask them to provide the first word that comes to their minds in writing. The results show that EFL learners tend to use syntagmatic word association techniques. Furthermore, the proficiency level of the students seems to have partial effect on their use of word associations. These results support Wolter's (2001) argument about the re-evaluation of the syntagmatic-paradigmatic shift in the case of non-native speakers.

Key words: L2 proficiency, mental lexicon, paradigmatic, syntagmatic, word association

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1.Introduction

To Learn a language is considered to be a complex process which involves storing and accessing words within the mind. The mental space where this process takes place is called the mental lexicon. To understand the organizational structure of our mental lexicon, there are variable methods that have been suggested over the past years. One of these methods is word association.

The word 'association' was first used in psycholinguistics to refer to connections between ideas, concepts, or words which exist in the human mind (Sinopalnikova 2003). Accordingly, the appearance of one word entails the appearance of the other in what is called 'word association'.

For speakers of both L1 and L2 languages, the development and acquisition of words involves accessing organization within the mental lexicon. It consists of processes of association shaped predominantly by structural semantic principles and to a lesser degree by orthographic and phonological patterns as well as encyclopedic knowledge. A structural semantic approach to word meaning follows the basic principle that words do not exist in isolation (Carter 1998).

One of the easiest ways to reveal the word association mechanism in the human mind is through the application of a Free Association Test (FAT). FAT mainly consists of a number of words (stimuli) which are presented to the subjects who are, in turn, asked to respond with the first word that comes into their minds (responses). Compared to other more sophisticated psycholinguistic word association experiments, FAT is the easiest experiment that reveals the broadest information about how words are organized in the human mind.

The results of the FAT series consisting of hundreds of stimuli and thousands of subjects are usually called Word Association Norms (WAN). In addition, a more developed form of WAN consisting of thousands of stimuli is called Word Association Thesaurus (WAT).

The word association test (WAT) was first developed by Sir Francis Galton and later refined by Wilhelm Wundt near the end of the nineteenth century (Stevens 1994). It was initially used as a psychological tool to study the subconscious mind, and more recently used by psycholinguists to explore the mental lexicon. Cremer et al.(2010) indicated that the resulting associative behavior is assumed to reflect how words and concepts are organized and interrelated in the mind. They added that the free word association tasks can give insight into a language user's current state of mind that is the strength of certain word relations (ibid).

Moreover, Wolter 2002 suggested that there are several reasons behind using WAT as an appropriate means to assess the proficiency of learners in a foreign language, however, there should be more considerations given to the test. First, WAT is a test that would be relatively easy to administer as well as to score. Second, comparing to other methods, WAT does not basically depend on a correct language performance. Third, WAT may suggest a connection between the psycholinguistic knowledge and more general proficiency in the foreign language. In this context, Wolter reported that on the basis of responses on a WAT, evidence for the connections between words in the mental lexicon was revealed. Therefore, this may be possibly claimed about the connection may appear between the learner's semantic network and the implications this has for the learner's general proficiency in the foreign language (ibid).

According to what has been mentioned above, the word association test has been used in the literature to achieve several goals concerning the mental lexicon; its organizational structure, the types of semantic relations

hold between words in a speaker's lexicon, and the similarities and/or differences in L1 and L2 mental lexicons among native and non- natives speakers of a language. Therefore, because of the significant role of this test, the current study employs the word association test to achieve its goals.

2. Theoretical Background and Literature Review

Richards and Schmidt (2002:327) defined the mental lexicon as “a person’s mental store of words, their meanings and associations”. In the same vein, McCarthy (1990:41) indicated that in the mental lexicon the word is placed with three dimensional nets; phonological nets which cross the orthographical ones which in turn criss-crossing the semantic and the encyclopedic ones. He added that those nets of information are not static instead they are updated over time i.e. new words are added, new connections of the already existing words are made, and unused words may be forgotten (ibid). Such connections hold between words, concepts, or ideas in the human mind are usually referred to as ‘associations’ (Sinopalnikova 2003). Accordingly, the appearance of one word entails the appearance of the other in what is called ‘word association’.

Furthermore, Cremer et al. (2010) reported that understanding those associations between words means having a rich and a densely interconnected mental lexicon and hence may be considered as an important feature of developing language proficiency. Moreover, Schmitt (1998) suggested that the associative links hold between words reflect the strongest mental connections between words in the mind. In addition, Aitchison (2003) listed four main methods for exploring the mental lexicon: (1) word searches (tip-of-the-tongue or TOT states) and slips of the tongue, (2) linguistics and linguistic corpora, (3) speech disorders and brain scans, and (4) psycholinguistic experiments. Therefore, the most well-known experimental tool that has been used to research and explore the organizational principles of the mental lexicon and the knowledge of word relations in particular is the Word Association Test (see Wolter 2001; Namei 2004; Menenti 2006; Sheng, McGregor and Marin 2006; Fitzpatrick and Izura 2011). WAT requires the participant to give the first words that come to their minds for a number of stimulus words.

Traditionally, the associative responses elicited from WAT are classified into three major types of responses; syntagmatic, paradigmatic, and phonological or ‘clang’ (Wolter 2001; Pena et al. 2003; Namei 2004; Menenti 2006; Sheng, McGregor and Marin 2006; Fitzpatrick and Izura 2011). However, some researchers provided another type of responses which is Encyclopedic (McCarthy 1990). Namei (2004:363) defined syntagmatic responses as “usually, but not necessarily, belong to different word classes than the stimulus words and both of which can co-occur in grammatically well-formed expressions”. He added that the syntagmatic response along with the stimulus word completes a syntagm. For example, the syntagm of the stimulus word ‘nice’ may be a noun (e.g. ‘dog’) or an adverb (e.g. ‘very’) (ibid:371). Moreover, Carter (1998) mentioned that the syntagmatic relation may be viewed as horizontal or sequential relationship that can be analyzed by what comes before or after a chosen word. The well-known example of the syntagmatic relation is collocation.

Peppard (2007:7) defined collocation as “the tendency for some words to regularly co-occur together” he added that these co-occurrences are not random and can be either lexical such as ‘node a head’ or grammatical such as ‘buckle up’ (ibid). In the same vein, McCarthy (1990:14) suggested that “knowledge of collocation is knowledge of what words are most likely to occur together”. It is worth mentioning that Cremer et al.(2006:194) referred to this type of relation as *Indirect Meaning- relation* which includes the following subcategories: (1) subjective association such as ‘motor bike-cool’, (2) composite word such as ‘apple-tree’, and (3) context-dependent characteristic such as ‘strong-muscles’. On the other hand, Wolter (2001:43) defined paradigmatic responses as “words from the same word class as the prompt word, and, as such, could presumably perform the same grammatical function within a given sentence”. Traditionally, researchers have suggested that paradigmatic responses include the following subcategories: coordinates, superordinates, subordinates, and synonyms (Wolter 2001; Namei 2004; Sheng et al. 2006; Krzemińska-Adamek 2014).

Aitchison (2003:86) defined coordinates or co-hyponyms as words that cluster together on the same level of detail. Examples of coordinates could be ‘dog and cat’, or ‘table and chair’. Coordinates may also include antonyms or opposites. Saeed (1997) indicated that antonyms can be further divided into categories: (1) simple antonyms, e.g. ‘dead-alive’, (2) gradable antonyms, e.g. ‘hot-cold’, (3) reverses, e.g. ‘go-come’, and (4) converses, e.g. ‘above-below’. On the other hand, superordinates and subordinates are closely related to each other and they are usually defined under the relation of hyponymy. For example, Peppard (2007) mentioned that hyponymy encompasses the hierarchical relationships of superordination (hypernymy) and subordination (hyponymy). For example, the word ‘animal’ is the superordinate response of the stimulus word ‘dog’. However, the word ‘dog’ is the subordinate response of the stimulus word ‘animal’. Moreover, synonyms were defined by Saeed (1997: 65) as “different phonological words which have the same or very similar meanings”. For example, ‘hungry and starving’.

In the same vein, Cremer et al. (2006:194) referred to the paradigmatic relation as the *Direct Meaning- relation* which includes the following sub categories: coordinate, e.g. ‘dog-cat’, subordinate, e.g. ‘car-porsche’, superordinate, e.g. ‘deer-animal’, antonym, e.g. ‘fake-real’, partonym 1 (part-whole), e.g. ‘teeth-mouth’,

partonym 2 (whole-part), e.g. 'elephant-trunk', context-independent characteristic, e.g. 'sledge-snow', 'goal-target', e.g. 'knife-cut', and synonym, e.g. 'simple-easy'. Holmstrom et al. (2015) indicated that paradigmatic associations are considered more mature and thus they are produced frequently by adults and older children. They added that such type of responses reflect the depth of the word knowledge that a speaker has.

Moreover, the phonological or 'clang' responses were defined as "those which resemble the stimulus word in terms of (spoken) form i.e. they may share the same initial consonant, rhyming vowel or include similar syllables" (Ervin 1961 cited in Krzemińska- Adamek (2014:141-142)). For example, the stimulus word 'dog' may generate the word 'bog' (Wolter 2001:43). In such example, there is no overt semantic relation hold between these words instead they both share the same rhyme (ibid). This type of response may indicate that the chosen words are phonetically stored or organized in the lexicon rather than semantically organized (Peppard 2007). Moreover, Wolter (2001) and Meara (1982) reported that this type of response is produced frequently by lower level learners and very young children due to their inability to produce collocational associations.

According to McCarthy (1990:41) encyclopedic responses are related to one's personal knowledge acquired over time concerning the target word that creates "a web-like set of associations". These responses may be associated with a particular circumstance, occasion, or a person. For example, the word 'happy' may associate with 'someone's birthday', or the word 'man' may trigger the response of a name of a male person.

One of the most important issues to consider here is the relationship between word-association and level of language proficiency. Research in this area has produced conflicting results, in that, some studies pointed to the disconnection of the two and some pointed to the undeniable influence of word association and the level of language proficiency.

Wolter (2002) stated that devising a word association test (WAT) as a means of assessing proficiency in a foreign language has always had something of an inherent appeal to it. He claimed that there may be a connection between psycholinguistic knowledge and more general proficiency in a second and foreign language. He particularly argued that learners of higher proficiency would be expected to have more highly developed semantic networks in L2 mental lexicon. However, his study with a group of language learners and native speakers did not support his views since he could not find any evidence that word associations in a foreign language are linked to proficiency.

The possibility of such a link between the learners' proficiency in a foreign language and word associations produced by those learners has been reported in earlier studies (cf. Lambert, 1956; Politzer, 1978; Meara, 1982). In other words, the findings of those studies suggested that as learners' proficiency increases, the types of the word association responses shift towards being more likely as native speakers' types of response. One of the earliest attempts to explore such a link was done by Randall (1980), using a WAT test consisted of 50 words from the Kent-Rosanoff list chosen at random, stated that as learners' level proficiency improves, their responses would be more similar to native speaker responses.

On the other hand, McCarthy (1990) and Meara (1983) claimed that as FL learners acquire more vocabulary knowledge during the language learning process and become more proficient, therefore, their responses in word association tests incline to paradigmatic relations. In the same vein, Henning (1973 cited in White 1988) argued that low-proficiency language learners encode words in their memory according to acoustic similarities in comparison to learners at a high level who encode vocabulary according to meanings.

Although previous studies have found no clear cut evidence that language proficiency is a determinant in word association, newer researchers claim that it may still be possible to "develop a word association test as means of assessing proficiency in a foreign language, despite the findings of past studies" (Wolter 2002, p.315).

In the same vein, Dergisi (2010) revealed that proficiency in English might affect word associations. To illustrate, competent speakers can make generalizations about the occurrence of a word and thus find its associated words easily. Furthermore, students in an advanced level use superordinates and subordinates through which they connect words in their minds more easily by establishing a network of associations more than the students in an elementary level (ibid).

Similarly, Khazaenezhad and Alibabae (2013) who investigated 120 Iranian EFL learners revealed that the upper intermediate students' responses were more significantly frequent than beginners' responses in the categories of paradigmatic relations such as synonymy and hyponymy. On the contrary, the beginner's responses were more significantly frequent in the category of "grammatical collocation" which is a syntagmatic relation.

Therefore, the present study aims at answering the following questions:

1) Which type of productive word association (i.e., paradigmatic, syntagmatic, clang or other) shows the most significant frequency of occurrence within the low-, mid-, and high- level learners of English as a foreign language?

2) Are there any similarities or differences in the responses of the students in the three levels?

3. Methodology

3.1 Participants

A total of 60 (both male and female) Jordanian EFL learners aged between 19 to 50 participated in the study. All of whom were students at the University of Jordan.

The participants were then divided into three groups according to their level of foreign language proficiency. The first group consisted of 20 first-year students who failed in the English language test provided by their university and were taking an English elementary course (English 99). Therefore, they have low level of English language proficiency and the experience they have in English is limited to what they had been taught in their educational life at school.

The second group consisted of 20 second and third year students who were specializing in Applied English. The members of this group had already passed the English proficiency test provided by the Jordan University and passed the introductory courses of their field of study (Applied English). Thus, they have mid-level of English language proficiency.

The third group consisted of 20 PhD students who were specializing in Linguistics at the University of Jordan. Therefore, besides what they had already exposed to during their educational life at school, they had also exposed to English during their higher education at university (during their Bachelor and Master degrees). Moreover, to enter the PhD program of linguistics at the University of Jordan, students should get a total score of 75% in the National English Exam or 550 in the TOEFL (ITP). This prerequisite requirement aims to guarantee the students' high level of English language proficiency and their development of the necessary skills for communicating in English.

3.2 Material

A free Word Association Test consisting of 20 English stimulus verbs was used and distributed among the participants (see appendix 1). The test's format including the 20 verbs was adopted from Wolter's (2002) study which was originally taken from the Edinburgh Associative Thesaurus (EAT, Kiss et al., 1973; available online <http://monkey.cis.rl.ac.uk/Eat/htdocs/eat.html>). As selection of prompt words was believed to be essential for developing a word association/proficiency test (Wolter 2002).

3.3 Procedure

The WAT was distributed among the students. Each group was tested in a separate session at the University Campus. The students were then asked to write the first word that comes to their mind once they see the stimulus words in English. All of the responses were classified based on Peppard (2007) Model. In that, the responses were first classified into paradigmatic, syntagmatic and phonological associations. The paradigmatic responses were further classified into co-ordination (antonym), hyponymy/ hypernymy and synonymy. On the other hand, the syntagmatic associations were further classified into lexical, grammatical and restricted collocations.

4. Results and Discussion

In total, 1200 responses were collected for the twenty stimulus verbs. In particular, 400 responses were collected from each students' level. Table 1 presents the number and percentages of the four types of responses which were collected from the students at each proficiency level.

Table 2. Number and percentages of the response in terms of students' proficiency level and type of association based On Peppard (2007) Model

Type of association	Paradigmatic			Syntagmatic			Phonological or Orthographical	Encyclopedic-knowledge
	Coordination	*Hypo.	*Syn.	*Lex.	*Gram.	*Res.		
Proficiency level of learners								
Low-level	5 1.5%	13 3.2%	8 2%	334 83.5%	16 4%	0	13 3.2%	11 5.2%
Mid- level	7 1.7%	12 3%	13 3.2%	322 80.5%	28 7%	0	2 2.03%	16 4%
High- level	4 1%	5 1.5%	6 1.6%	333 83.2%	37 9.2%	0	2 2.03%	13 3.2%
All level	16	30	27	989	81	0	17	40
Total number and Percentage	73 6.08%			1,070 89.1%			17 1.41%	40 3,33%

*Hypo.=Hyponymy, *Syn.=Synonymy, * Lex.= lexical, *Gram.=Grammatical, *Res.=Restrictions

A deep look at Table 2 above shows remarkable differences in the number and percentages of the responses in terms of the type of response (association) and the students' proficiency level. The overall results show that the highest number and percentages are in favor of the syntagmatic type of association (N=1,070; 89.1%) followed by paradigmatic (N=73; 6.08%), then encyclopedic (N=40; 3.33%), and finally phonological type of association (N=17; 1.41%).

Furthermore, Table 2 reveals that among the subcategories of the syntagmatic association, the most frequent type of association is the lexical collocations. It obtains a total number of (989) responses collected from the students across the three different levels as the followings: (334) from the low-level, (322) from the mid-level, and (333) from the high-level. Moreover, the second most frequent association is the grammatical collocations with a total number of (81) responses divided as the followings; (16) from the low-level, (28) from the mid-level, and (37) from the high-level. The third association in frequency is the encyclopedic knowledge with a total number of (40) responses; (11) from the low-level, (16) from the mid-level, and (13) from the high-level. The hypernyms and hyponyms type of association comes fourth with (30) responses divided into (13) from the low-level, (12) from the mid-level and (5) from the high-level. It is followed by Synonymy with (27) responses; (8) from the low-level, (13) from the mid-level and (6) from the high-level. On the other hand, the sixth most frequent type of association is phonological/ orthographical relations with (17) responses collected as followings: (13) are from the low-level, (2) from the mid-level and (2) from the high-level. However, the least frequent association type is co-ordinations with (16) responses; (5) from the low-level, (7) from the mid-level and (4) from the high-level. Finally, the category of restricted collocations has no responses.

Considering the results shown above, it is quite obvious that the low-, mid-, and high-level learners provided a variety of responses which were more or less similar. Put it in another way, although the students at the three levels of proficiency gave different number of responses for each type of association, they showed a great tendency towards the syntagmatic association in general and lexical collocations in particular. For example, a total of 1,070 (89.16%) of all the L2 learners' responses are syntagmatic, while 73 (6.08%) are paradigmatic whereas 40 (3.33%) are encyclopedic and only 17 (1.41%) are phonological. Therefore, the most frequent type of association used by the three groups is syntagmatic. The result at hand is in line with Wolter's (2001) findings which demonstrate that the mental lexicon of non-native speakers is syntagmatically dominant. He also argued for a "syntagmatically dominated" L2 mental lexicon and called for a re-evaluation of the syntagmatic-paradigmatic shift in the case of non-native speakers.

It is worth noting that although learners showed a convergent performance in terms of the type of association (i.e. syntagmatic) they were divergent in terms of the words' complexity given for the stimulus verbs. For example, it was observed that the learners at the low- proficiency level preferred using simple words as responses. For instance, the words *sheep*, *man*, *snake* were most frequent responses for the stimulus verb "kill" while *meat*, *clean*, and *food* were the most frequent responses for the prompt verb "keep". However, the mid-level learners tended to give more semantically complicated words. For instance, the stimulus verb "kill" elicited the following responses; *death*, *crime*, and *thief* whereas the prompt verb "keep" was given the following responses; *secret*, *silent* and *money*. In contrast, the high-level learners gave more complex, derived and multi-word items such as *kill- the time*, *criminals and protesters* and *keep- in touch*, *calm and going*.

These apparent differences in the learners' responses can be attributed to the learners' degree of exposure to vocabulary. To illustrate, the degree of exposure to vocabulary increases as the learners' level of proficiency improves. Therefore, the mid- and high- level learners are supposed to be exposed to a larger number of vocabulary as well as to more complex vocabulary that have been kept in their memory as they got advanced-level of proficiency.

The results also reveal that the low-level learners' responses are the highest frequent for the category of phonological or orthographic relation. This is clear in the following examples such as: *move- more*; *care-car*; *apply-apple* and *kill-bill*. This finding can be explained due to the way words are stored in the memory. For instance, Henning, 1973 (cited in White 1988) stated that low proficiency language learners encode words in their memory according to acoustic similarities rather than to association of meaning in compared to learners at a high level who encode vocabulary according to meanings. Therefore, He found that the high level learners remembered words that were stored in semantic clusters while the low- proficiency learners tended to recall words on the basis of their sounds. Meanwhile, Abdullah (1993) stated that good readers "store" their knowledge of vocabulary in semantically related networks; the activation of a word in a network will automatically "activate" other related words, which will then aid comprehension.

On the other hand, the overall findings of the present study were not in conformity with those of the previous studies in literature which suggested that the learner's level of proficiency plays a role in the word association behavior (Meara 1980, Dergisi 2010, Khazaenezhad and Alibabae, 2013). In that, advanced learners showed a great tendency towards paradigmatic types of association based on words' meaning. These discrepancies in findings might be attributed to the differences in WAT itself. For instance, in the current study, the WAT consists of a list of verbs only which is likely trigger a syntagmatic response unlike the WATs used in

previous work which consist of different parts of speech such as adjectives, nouns, and prepositions that might trigger different pattern of responses (i.e. paradigmatic) (Randall 1980, Cremer et al. 2010).

5. Conclusion

The results of the study show minimal effect of the level of foreign language proficiency on the word association behavior of Jordanian EFL learners except the phonological or orthographic category. In addition, most of the learners responses are syntagmatic in relation which supports Wolter's (2001, P.61) view that non-native speakers have a syntagmatically dominant mental lexicon. He, therefore, called for a re-evaluation of the syntagmatic- paradigmatic shift in the case in nonnative speakers.

On the other hand, the results contradict Meara (1983) and McCarthy (1990) viewed that as FL learners acquire more vocabulary knowledge during the language learning process and become more proficient, their responses in word association tests incline to paradigmatic relations.

This in turn leaves the door wide open for further research to gain a better insight into the mental lexicon of learners related to the other mentioned categories. All in all, the conclusion is that there is a great deal of work yet to be done and we have a long way to go in order to understand the complexity of the mental lexicon.

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Appendix 1: The word Association Test

Please write the first word that immediately comes to your mind for the following words:

Note: there is no right or wrong answer.

1.	Draw	
2.	Jump	
3.	Care	
4.	Bring	
5.	Move	
6.	Keep	
7.	Visit	
8.	Fall	
9.	Break	
10.	Travel	
11.	Cut	
12.	Enjoy	
13.	Kill	
14.	Argue	
15.	Write	
16.	Send	
17.	Replace	
18.	Apply	
19.	Make	
20.	Show	

Appendix 2: The most Frequent responses by the students at each proficeincy level

1.Syntagmatic response:

A. Lexical collocation:

	High level		Mid level		Low level	
word	Responses	Freq.	Responses	Freq.	Responses	Freq.
draw	Picture	11	picture	5	picture	2
					tree	2
					flower	2
Jump	-	-	rope	3	-	-
			rabbit	2		
Care	Mother	4				
	Children	4	Children	2	Cat	4
	Baby	4	Baby	2	Baby	2
	Take	3				
Bring	Food	3	Book	4	Food	2
	Water	2	Bag	3	Water	5
move	House	2			car	5
	Chair	2	slowly	2	chair	3
	quickly	3	quickly	2		

keep	Calm	4	calm	3	book	2
	Money	2			clean	2
	Going	2			food	2
	Silent	2	silent	2		
visit	Parents	5	family	3	grandfather	2
	Grandparents	2			grandparents	2
	Grandmother	2			grandmother	2
fall	Love	2	love	2	pen	3
			mountain	2	baby	2
break	Leg	4	Window	5	window	5
	Glass	4	heart	3	glass	5
	Ice	2			table	2
travel	Abroad	5	-	-		
	Paris	2			Paris	3
Cut	Hair	3			meat	2
	Paper	3			paper	5
	Finger	3	finger	5	finger	2
	Tree	3	tree	2	tree	3
					knife	3
enjoy	Life	4	life	2	life	2
	Time	4			time	2
	Holiday	2			trip	2
					party	2
kill	-	-	crime	2	sheep	2
			time	2	dog	2
			enemy	2		
argue	-	-	friend	5	friend	5
			teacher	2	doctor	2
write	Letter	5	letter	4	message	8
	Message	8	story	3	story	3
	Email	5			book	3
					homework	2
send	Letter	4	letter	3	letter	3
	Message	8	message	9	message	8
	Email	5	email	4	email	3
replace	A word	3	table	2	table	2
			seat	3		
			book	2		
apply	Rules	5	application	2	rules	3
	Method	3	job	2	program	2
			work	2		
make	Cake	7	cake	8	cake	8
	Mistakes	4	mistakes	3	coffee	2
					juice	2
show	Love	2	picture	2	-	
	presentation	3	presentation	4		
			film	2		

*Freq.: frequency

B. Grammatical collocations (the most frequent responses)

Word	High level		Mid level		Low level	
	Responses	Freq.	Responses	Freq	Responses	Freq
jump	Up	3	-	-	up	3
move	Away	2	forward	2	-	-
keep	-	-	up	2	-	-
fall	Down	8	down	5	-	-
	Back	2				
break	-	-	up	2	-	-
			down	2	-	-
travel	-	-	by	2	-	-
argue	Against	3	-	-	-	-
	With	2	-	-	-	-
replace	With	2	-	-	-	-
apply	For	2	-	-	-	-

2.Paradigmatic Responses

Synonym

word	High level		Mid level		Low level	
	Response	Freq.	Response	Freq.	Response	Freq.
argue	debate	2	-	-	-	-

Hyponym

word	Hig- level		Mid-level		Low level	
	Response	Freq.	Response	Freq	Response	Freq
jump	-	-	-	-	sport	2

Antonym

word	High-level		Mid-level		Low-level	
	Response	Freq.	Response	Freq	Response	Freq
jump	-	-	run	2	run	2