

An Investigation into the Mental Lexical Characteristics of Postgraduate EFL Students at Different Levels by Word Association Test

Jiahao Shi, Baokai Zhang

China West Normal University, Nanchong City, Sichuan Province, 623300, China.

280389818@qq.com

Abstract

The purpose of this study is to explore the mental lexical characteristics of EFL postgraduate students as well as the mental lexical characteristics at different levels through word association test. In this study, aggregative, combinative, phonetic and non-reactive words are used, and stimulus words are selected from Wolter high-frequency words. The results show that there are differences between the two groups, in which English majors mainly focus on phonetic patterns, while non-English majors mainly focus on aggregative patterns. In general, English majors have better mental vocabulary.

Keywords

Mental Lexical Characteristics; Word Association Test; EFL Postgraduate Students.

1. Introduction

With the increasing attention to vocabulary learning, vocabulary teaching is also increasingly exploring and developing. From the perspective of educational psychology, the divergent associative vocabulary teaching of mind schemas promotes the optimization of students' finishing strategies and organizational strategies. From the perspective of applied linguistics, lexical research has become more and more important in the field of applied linguistics since the 1980s.

However, compared with foreign countries, the application of Chinese vocabulary test in the second language is relatively late, and there are still many problems and controversies to be solved. For example, there is no unified standard for the selection of stimulus words and the classification of associative response words, and the research object is relatively single and the sample is small. Therefore, the application of word association test in second language mental vocabulary needs to be further revised and improved.

In this paper, the Word Association Test (WAT) integrates applied linguistics and educational psychology to explore the organizational forms of second language mental vocabulary. Based on the WAT proposed by Bai Li (2005) as the standard, it explores the mental vocabulary levels of EFL learners at different levels through the word association test. [1]

2. Literature review

At present, the academic circles have the following three views on the relationship between second language vocabulary phonetic theory, semantic theory and syntactic theory. The response words can be divided into phonetic response, combinational response, aggregative response, encyclopedic knowledge response, lexical response, ineffective response and so on.

Dong Lili (2014) [2] gave the definition of word association test word association test is a commonly used and effective method to study the mental lexicon. One of the most basic word association tests involves presenting a stimulus word to a subject and then asking him to say

or write down the first word that comes to mind as quickly as possible. Li Yue (2016) [3] reviewed the tests of second language word association in the past ten years at home and abroad and found that there are three common methods of word association at home and abroad -- the conventional database of suggested word association, the study of applying lexical syntactic patterns to lexical association response words, and the study of collocation. Xu Wenhui (2012) [4] explored the connections, representational features and organizational forms of mental words among low-level EFL learners through word association test, and revealed the rules of English vocabulary acquisition. Hoey(2005) and Fitzpatrick (2006) [5] [6] [7] [8] [9] believe that native English speakers have a higher proportion of horizontal collocation than second language learners in the research on domestic second language acquisition and foreign native English learners. However, their studies only adopt one research method to study and analyze a certain aspect of the vocabulary association between the native language and the second language, while Chinese scholar Feng Xuefang (2014) [10] compares the semantic connection patterns of Chinese EFL learners and English native speakers through the semantic-based word association test. The experimental results show that the difference between the two is mainly reflected in the proportion of semantic adjacency and collocation. This study provides guidance for the research field of verifying the similarities and differences between EFL and native speakers from different aspects. In a similar multidimensional verification, Zhang Ping (2010) [11] showed that the associations of adult subjects' mental lexicon in their native language all followed the associative principle of associating meaning together, and the construction of semantic network of horizontal and vertical aggregation developed in a balanced way. The L2 learner's mental lexicon is a semantically - non-semantically mixed associative model.

As for the research on college students' English mental vocabulary, Sun Jiping (2014) [12], from the perspective of cognitive science, established an associative network system by referring to the construction model of the mental lexicon, and conducted classroom teaching experiments on the effect of the acquisition model in college English vocabulary teaching. The results show that in the short term, associative network-based vocabulary acquisition can promote the vocabulary acquisition of high and middle level students, but it is not significant. Compared with high level learners and low level learners, this acquisition mode is more conducive to promoting the vocabulary acquisition of medium level learners.

3. Research design

3.1. Research questions

- (1) The characteristics of mental vocabulary of English majors
- (2) The characteristics of mental vocabulary of non-English majors
- (3) Different levels of EFL mental vocabulary characteristics

3.2. Research Subjects

In order to explore the organizational characteristics and differences of mental vocabulary among EFL learners at different levels, this paper selected five graduate students from China West Normal University, majoring in English and non-English. The average age of each group was 22 years old.

The subjects majoring in English were all sophomore students from Normal University, majoring in English Curriculum and Instruction Theory.

The non-English major subjects were from Chinese Language and Literature, Marxist Politics, Astronomy, Physics Teaching, and Journalism and Communication.

3.3. Research Methods

In this paper, the storage mode and association mode of lexical knowledge of learners are studied by using free word association test.

In the test, the subjects were asked to immediately name the words (5 words) that they associated with a stimulus word when they saw or heard it.

In this study, the WARS proposed by Bai Li (2005) was used as the scoring standard, and the test categories were aggregated type (3), combined type (2), simple phonetic similar type (1), and non-reactive type (0). [13][14][15]

3.4. Experimental results and analysis

The experimental data showed that there were significant differences in the types of response words given by the professional group and the non-professional group according to the stimulus words, on the premise that both groups had completed a total of 300 response words in response to the stimulus words.

3.4.1. Characteristics of mental vocabulary of English majors

According to the response words of the English major group (Table 1), the response words of the English major group were mainly phonological response, followed by polymeric reaction and combinative reaction, while the non-response type accounted for 38.6% of the total.

According to the WARS scale, the English major group scored 347 points.

Facts show that the subjects in the English major group can get more response words according to the stimulus words, and their mental vocabulary is larger, which can also be illustrated by the fact that the total proportion of ineffective response words is smaller.

3.4.2. Characteristics of mental vocabulary of non-English majors

According to the response words of the non-English professional group (Table 2), the reaction words of the non-English professional group were mainly polymeric reaction, followed by phonetic reaction and combinative reaction, and the non-response type accounted for 59.0% of the total proportion.

According to the WARS rating scale, the English major group scored an overall 262. It can be seen that subjects in the non-English major group can get more aggregated response words according to the stimulus words, that is, substitution words, and subjects in the non-English major group pay more attention to the synonymous substitution relationship of words, and grasp it better than those in the other types.

3.4.3. Differences in EFL mental vocabulary characteristics at different levels

The experimental results show that, firstly, because the two groups are graduate students and both of them have the intermediate level of English, the combination response of the two groups is the smallest, while the phonological response is obviously larger.

In the response types of the professional group and the non-professional group, we can see that the combination response accounts for the smallest proportion, which reflects that the second language learners have not studied this type of high-frequency words more deeply, and should pay more attention to the organizational role brought by syntax in their learning.

In addition, the aggregative response words of English professionals are more aggregative than those of non-English learners. It shows that L2 learners tend to organize themselves with words of the same or similar parts of speech with meaningful associations. This is because with the deepening of language learning and the continuous increase of vocabulary, second language learners' mastery of vocabulary is no longer limited to its own sound and form.

The experimental results show that compared with the non-English major group, the English major group is more professional in second language learning, and its unresponsive mental vocabulary is less than the non-English major group.

Table 1. English Major Response Words

English Major Response Words					
Rank	Combination	Polymeric	Prono-type	No-respons	Score
1	7	18	15	35	83
2	6	29	11	29	110
3	2	5	41	26	60
4	16	14	20	26	94
Total	31/10.3%	66/22.0%	87/29.0%	116/38.6%	347

Table 2. Non-English Major Response Words

Non-English Major Response Words					
Rank	Combination	Polymeric	Prono-type	No-respons	Score
5	15	22	4	32	78
6	3	16	11	47	65
7	10	9	7	48	54
8	5	6	15	50	43
Total	33/11.0%	53/17.6%	37/12.3%	177/59.0%	262

4. Conclusion

Based on the successful analysis of the experimental results, this study still has some defects and deficiencies in the design and implementation of the experiment, which are mainly manifested in the following aspects: First of all, from the perspective of the selection of stimulus words, although the words selected in this study were selected from the high-frequency vocabulary list of Wolter Brent (2001) and randomly sampled, the stimulus words selected in this study were all high-frequency words, which were familiar words to the subjects. As a result, some of the response words obtained are not objective feedback from the subjects' mental lexical organization.

In addition, due to the small size of the subjects and the small number of high-frequency stimulus words, the experimental results have errors. Second, this experiment adopts the traditional write - see - in the form of word association test method as the only experimental tools, although the use of reliability and validity of the WARS as the criteria, but the body of the evaluation is only one person, these are the limitations of place, and because of the mental lexicon storage and extraction is a very complicated dynamic development process, Relying only on a single test tool and a single evaluator to study the representation of mental vocabulary in the brain will make the experimental results less objective.

5. Results

The development of L2 vocabulary is dynamic and extremely complex, and the construction of L2 mental lexical network is also a process of constant development. At present, more and more scholars at home and abroad are studying this topic, and although the research breakthrough point, testing method and theoretical viewpoint are different, it also illustrates the characteristics of the dynamic development of mental vocabulary.

This experiment tries to study the mental lexical features of EFL at different levels by means of word association test. Experimental results show that the L2 mental lexicon in among EFL learners of different levels have different characteristics, their dominant reaction type words is difference, but in general, the higher level of EFL learners is more abundant and excellent mental lexicon, the differences also asked us in the future should pay attention to in the second language vocabulary learning,

Teachers should adopt different mental vocabulary construction methods according to different EFL learners' language levels. It is believed that this conclusion can provide certain theoretical significance for EFL mental vocabulary and second language vocabulary acquisition.

References

- [1] White people stand. Vocabulary association response[J]. Foreign Languages and Foreign Language Teaching, 2005(01): 28-31.
- [2] Dong Lili. Research on Second Language Vocabulary Association and Second Language Vocabulary Teaching[J]. Exam Weekly, 2014(70): 88-90.
- [3] Li Yue. A decade of L2 vocabulary association testing at home and abroad [J]. Journal of Chinese Language and Literature (Foreign Language Education and Teaching), 2016(01): 64-66.
- [4] Xu Wenhui. From the vocabulary association test to see the connection between the mental vocabulary of low-level EFL learners[J]. Journal of Nanyang Normal University, 2012, 11(02):118
- [5] Hoey,M. 2005. Lexical priming: A new theory of words and language[J].Psychology Press.
- [6] Fitzpatrick,T. 2006. Habits and rabbits: word association sand the L2 lexicon[J].Euro SLA Yearbook, 6(1):121-145.
- [7] Mizumoto A, Sasao Y, Webb S A. Developing and evaluating a computerized adaptive testing version of the Word Part Levels Test[J]. Language Testing, 2017:02-34.
- [8] Samuel, Messick. Validity and washback in language testing[J].Language Testing, 2016:46-78.
- [9] Çetinkaya Fatih Çetin,Sönmez Muhammet,Topçam Abdurrahman Baki. A Formative Assessment Example: Word Association Test[J]. International Education Studies,2020,13(8).
- [10] Feng Xuefang. Research on the Semantic Network in the Mental Dictionary of Chinese English Learners[J]. Foreign Language Teaching and Research, 2014, 46(03): 435-445+481.
- [11] Zhang Ping. A Comparative Study on the Association Model of Chinese English Learners' Mental Lexicon[J]. Foreign Language Teaching and Research, 2010, 42(01): 9-16+80.
- [12] Sun Jiping, Sun Xiuli. Second language vocabulary acquisition from the perspective of mental lexicon research——An empirical study based on the vocabulary association network system[J]. Foreign Languages Research, 2014 (01): 42-46.
- [13] Chaharbashloo H., Gholami K., Aliasgari M., Talebzadeh H., Mousapour N. Analytical reflection on teachers' practical knowledge: A case study of exemplary teachers in an educational reform context[J]. Teaching and Teacher Education, 2020, (87):250-279.
- [14] Brent Wolter .COMPARING THE L1 AND L2 MENTAL LEXICON[J]. Studies in Second Language Acquisition.2001.
- [15] Brent Wolter,Junko Yamashita,Chi Yui Leung. Conceptual transfer and lexical development in adjectives of space: Evidence from judgments, reaction times, and eye tracking[J]. Applied Psycholinguistics, 2020,41(3).