The Nature of the L2 Internal Lexicon and Its Implication for Language Teaching

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Abstract—**Through exploring the nature of the L2 internal lexicon and the systematical differences between the L1 internal lexicon and the L2 internal lexicon, the paper tries to reveal the implication of these findings in second language lexical teaching.**

Keywords—L2 internal lexicon; semantic view; phonological view

I. INTRODUCTION

Recently, the internal lexicon has become a hot area of psycholinguistic study. There has been a large body of researches focusing on L1 acquisition and processing, however, researches on the psychological aspects of L2 vocabulary acquisition and processing are rather limited. A key question for L2 theory to which we still need an answer is: What is the nature of the representations of L2 words in a learner's long-term memory, or to put it another way, what are the similarities and differences between the internal lexicon structures of the L1 and L2? The study of the nature of the L2 internal lexicon must be fully meaningful, since it can shed light on second language lexical teaching. Through reviewing the academic journal studies on internal lexicon and exploring the systematical differences between the L1 internal lexicon and the L2 internal lexicon, the paper tries to reveal the implication of these findings in second language lexical teaching.

II. THE NATURE OF THE L2 INTERNAL LEXICON

What is internal lexicon? Psycholinguists refer to the representation of words and the organization of word knowledge in permanent memory as our internal lexicon. Then how is the internal lexicon organized in our brain? On one hand, it is generally believed that the internal lexicon is to be recognized as a semantic network of interconnected elements. The most famous and representative theory in this aspect is the hierarchical network model (Collins and Quillian, 1969) and the spreading activation model (Collins and Loftus 1975). On the other hand, the analysis of the slips of the tongue and the TOT phenomena seem to indicate that words in the internal lexicon are related phonologically. To sum up, words in the mind are stored together on the basis of meaning or/ and sound.

Under the premise that words in the mind are stored together on the basis of meaning or/and sound, researchers in China and abroad have done many empirical studies on the nature of the L1 internal lexicon and L2 internal lexicon. Paul Meara is a representative in this field. He claimed that "there are good reasons for believing that there might be significant differences between the lexicon of a learner and that of a native speaker" (1984). Meara's conclusion was based mainly on the following findings:

- The connections between words in the second language learner's mental lexicon are less stable than the connections in the L1 mental lexicon.

- Phonology appears to play a much more prominent organizing role in the L2 mental lexicon than it does in the L1 mental lexicon;

- The semantic links between words tend to differ in a systematic way from those in the L1 mental lexicon. (1983)

This conclusion has been partly proved and widely applied, but also challenged by the later studies.

Now most of the researchers and scholars agree that there are strong semantic links in L1 internal lexicon and L1 internal lexicon is meaning based. But for the nature of the L2 internal lexicon, there are lots of controversies: semantic view, phonological view, and syntagmatic view. When searching the academic journal studies, I found some Chinese scholars had done some empirical researches on the nature of the L2 internal lexicon. Most of them employ word association testing method: Give the subjects a word, and let him say the first word he can imagine as soon as possible. Word association tests mainly distinguish three types of responses: paradigmatic responses, syntagmatic responses, or phonological responses. Since both the paradigmatic and syntagmatic responses are semantically meaningful, through analyzing the subjects' responses, you can know whether his internal lexicon is meaning dominated or phonology based. Recently, by doing empirical studies and investigating the response patterns in word association tests, some Chinese scholars' studies has shed some light on this special field. Zhang shujing's (2004) study shows that the L2 internal lexicon is systematically different from the L1 internal lexicon, and her study partly proved Meara's conclusion. Bai renli (2005) has conducted a research among some non-

English majors, and the result shows that the subjects' the semantic links in L2 is much weaker that that of L1, and their responses toward unfamiliar words are most phonological. Xie mi in his article *The Nature and Development of L2 Mental Lexicon* (2009) claimed "The mental lexicon of L1 is semantic in nature, and that of L2 depends on the learner's L2 proficiency. For primary learners, the L2 mental lexicon is largely phonological and they have not built up semantically meaningful connections for a large scale. For higher level learners, the L2 mental lexicon is largely semantic." Li yongcai (2009) found subjects' response toward new words is most phonological. With the passage of the time and more lexical knowledge learned, their lexical connections move from phonological to semantic, but sometimes there is some regression.

Among these researches, I found Zhang shujing's research is most detailed and overall. Zhang's research focus on one aspect of the L2 internal lexicon: whether the L2 internal lexicon is semantic or phonological. Besides, she also has done a long-term study on the developmental pattern of L2 internal lexicon. Altogether, Zhang shujing designs three experiments. Experiment 1 consists of a word association test (asking the subjects for one response word) and a vocabulary knowledge scale test. The subjects include 40 fourth year English majors of the PLA Foreign Languages University in China and 19 native speakers of English. It aims to investigate the nature of the L2 internal lexicon by comparing the responses of the native speakers and L2 learners. The results indicate that the lexical connections in the L2 internal lexicon are phonological in nature. The results also show that for a large proportion of words in the L2 internal lexicon, learners have not built up semantically meaningful connections. Experiment 2 is a word association test, but different from experiment 1, this time she asks the subjects to put up with 3 response words so as to know word connections in L2 more comprehensively. 30 Grade Three English majors of the PLA Foreign Languages University in China and 30 college students from Augusta State University in the city of Augusta, Georgia, in the USA are chosen as the subjects. Experiment 2 proves that the L2 internal lexicon is systematically different from the L1 internal lexicon. These differences consist of both linguistic and non-linguistic factors. Linguistic factors include L2 learners' inaccurate understanding of the word meaning and their lack of semantic connections, etc. Non-linguistic factors include environmental, cultural, religious factors. Experiment 3 is longitudinal study. It lasts for more than 9months. Thirty-three second year English majors of the PLA Foreign Language University in China participate in this study. Zhang designs 3 tests with the passage of the time, and each test includes a word association test and a vocabulary knowledge scale test. It aims to investigate how the L2 internal lexicon changes over time. Through analyzing the response patterns of the subjects, the results confirms that with the increase of the word knowledge, the lexical connections in the L2 internal lexicon becomes more and more semantic, but not all the responses move from phonological to semantic, and sometimes regression can occur. Therefore, vocabulary acquisition does not occur in a linear manner.

Lastly, though Zhang shujing's (2005) research design is scientific and her data is reliable, her conclusion seems to be a little general: In her conclusion, she generally reveals the phonological nature of the L2 internal lexicon, but she doesn't take the different English level of the subject into consideration, and the different English level of the subject may lead to different state of the L2 internal lexicon. In addition, she only generally talks about the systematical differences between the L1 internal lexicon and the L2 internal lexicon, but she doesn't go to details about the specific differences.

III. THE IMPLICATION FOR SECOND LANGUAGE TEACHING

The above studies of the nature of the L2 lexicon can shed some light on lexical learning and teaching.

A. *In L2 Lexical Teaching and Learning, Teachers and Learners Should Center on Building up Semantic Networks Between Words*

In the above discussion, the experiments done by the researchers show most L2 English learners can't build proper word semantic links as good as native speakers, and it affects lexical access and retrieval. So the aim of the L2 English learners should be to build up word semantic links. Firstly, in English teaching, teachers should try to avoid traditional Chinese-translation method, and use English interpretation or English synonyms when teaching new English words so as to strengthen L2 lexical connections. Secondly, L2 learners should reorganize the L2 internal lexicon and work hard to strengthen the meaningful connections between L2words.

B. *In L2 Lexical Teaching and Learning, Teachers and Learners Should Focus on Both The Denotation and the Connotation of the Word*

In Zhang's second experiment, compared with native speakers, far more L2 learners show the inaccurate understanding of the word meaning and lack of semantic connections. So in English teaching, firstly, we should teach the core meaning of the word. Secondly, we should teach different types of the word knowledge and different aspects of meaning to deepen L2 learner's word knowledge and help them to achieve an accurate understanding of a word. That is, not only should we teach them denotation of a word, but also the connotation of that word. Thirdly, some non-linguistic knowledge of the word should be taught, including environmental, cultural, religious factors, etc.

C. *In L2 Lexical Teaching and Learning, Repeated Exposure to A Word Is Necessary*

Zhang's third experiment shows that in L2 learning, sometimes regression can occur and vocabulary acquisition does not occur in a linear manner. So In English teaching, teachers should always keep in mind that teaching does not guarantee learning, and words can be forgotten easily, so repeated exposure to a word is necessary to cement a word in the long-term memory and to deepen knowledge of it.

IV. CONCLUSION

To sum up, through reviewing the studies of L2 internal lexicon, this paper draws a conclusion that nature of the L2 internal lexicon is phonological and there are systematical differences between the L1 internal lexicon and the L2 internal lexicon. In addition, it also finds out that though lexical connections move from phonological to semantic, there is some regression, that is, vocabulary acquisition does not occur in a linear manner. So in L2 lexical teaching and learning, we should aim at building up semantic networks between words, mastering the both the denotation and the connotation of the word and reviewing the words as often as possible.

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