

The Study on the Internal Factors of the Lexical Fossilization among College Students Major in English

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ABSTRACT

Vocabulary, as the basis of language, plays a vital role in improving the level of the second language. In recent years, the phenomenon of lexical fossilization has attracted more and more attention from domestic scholars. According to the definition of fossilization, lexical fossilization can be understood as a process that the stagnation in lexical mastery and the incorrect words forms become a part of the learner's TL and permanently exist. (TL: Target Language: a language that you are changing spoken or written words into). According to related research, once the lexical fossilization appears, it will greatly limit the improvement of language level. Exploring the causes of lexical fossilization is the foundation of solving problems. Based on the above considerations, the authors take this as a starting point to analyze the causes of lexical fossilization. Lexical fossilization is mainly caused by internal and external factors. However, compared to the external factors, there is less research on its internal factors in China, so the authors try to analyze the phenomenon of lexical fossilization from the perspective of internal factors.

This paper first reviews the current research on fossilization both in domestic and abroad and clarifies the concept of "lexical fossilization". This study uses questionnaire method to explore the internal factors leading to the phenomenon of "lexical fossilization." In addition, this paper chooses Chinese college English majors as the subjects of study, since middle and advanced learners tend to be prone to lexical fossilization.

This paper analyzes the internal factors from four aspects: first language lemma, excessive use of superordinate, learners' motivation, and learning strategies. According to these reasons, the authors put forward some countermeasures and hope to solve this problem in the future.

Keywords: *lexical fossilization, first language lemma, superordinate, motivation, learning strategy.*

1. INTRODUCTION

1.1. Fossilization

Over the past few decades, with the development of globalization, learning English has become popular among Chinese young people. However, although they spend a lot of time learning English, it is difficult for them to achieve the proficiency of native speakers. The main reason for this phenomenon is Fossilization. Fossilization refers to linguistic items, rules, and subsystems which speakers of a particular native

language (NL) will tend to keep in their interlanguage (IL) relative to a particular target language (TL), no matter what the age of the learner or amount of explanation and instruction he receives in the TL.

Selinker believed that there are five cognitive processes responsible for the construction of IL, namely, first language (L1) transfer, transfer of training, strategies of second language (L2) learning, strategies of L2 communication, and overgeneralization [1]. Selinker and Lamendella pointed out that fossilization is a permanent cessation of language learning before they

reach the proficiency as the native speaker [2]. In 1992, Selinker suggested that fossilization is the ultimate attainment of a second language, and he also put forward that no adult learners could reach the same competence as the native speaker [3]. According to Selinker's definition, Han and Selinker classified the study of fossilization based on experimental methods [4]. There are five main approaches: (1) longitudinal; (2) typical error; (3) advanced-learner; (4) corrective-feedback; and (5) length-of-residence [5]. Apart from Selinker's definition, in the early days of the study of fossilization, other scholars also discussed the definition of fossilization. Vigil & Oller proposed that both correct forms and error forms should be considered in explaining the fossilization phenomenon [6]. Also, they introduced the concept of "interactional model" to stress that fossilization will be caused by listeners' reaction. That is, learners will constantly receive a consistent reaction from the audiences, which encourages them to use the same forms of language expression. Schumann put forward the concept of cultural acceptance to illustrate the phenomenon of fossilization. In his opinion, the difference between the learner's own culture and the culture of the TL decides their performance in the second language learning [7].

1.2. Lexical Fossilization

Vocabulary learning is the most fundamental and important aspect of a linguistics department. Richards mentioned that fossilization is the tendency to fix the pronunciation, the use of lexis and grammar [8]. Therefore, there are actually different aspects of fossilization in the second language learning process, and lexical fossilization is one of the most significant and controversial perspectives. Lexical fossilization refers to a process that the stagnation in lexical mastery and the incorrect words forms become a part of the learner's TL and permanently exist, which can be classified into two types: the lexical ability fossilization and the lexical error fossilization [1]. Lexical ability fossilization refers to that learners repeatedly use simple and common words which are less accurate and diverse. While lexical error fossilization means that learners make the repeated mistakes in the form of words in the process of language learning.

Hyltenstam firstly studied lexical fossilization [9]. He analyzed the lexical density, the lexical variation, and the lexical depth through qualitative research. Laufer made an empirical study related to the relationship between the growth of input vocabulary and output vocabulary [10]. The research shows that the output vocabularies of subjects are limited after receiving a year of training, and there are few advanced vocabularies in their composition. Based on these findings, Laufer believed that the "plateau phenomenon" exists in the process of students' vocabulary output. This

"plateau phenomenon" is the embodiment of the fossilization of vocabulary in the learning process.

1.3. Internal Factors of Lexical Fossilization

People tend to explore the causes for the phenomenon of lexical fossilization through two major aspects: internal factors and external factors. For example, the learning materials teaching methods, learners' motivation, learning strategy, and so on. Since internal factors can cause a relatively systematic impact, this article will mainly focus on the internal factors of lexical fossilization, analyze their causes and give relevant solutions. The research on the internal causes of fossilization is relatively systematic. In contrast, there are too many external causes to focus on a few factors for analysis. Therefore, this paper mainly focuses on the internal causes of lexical fossilization. According to the theoretical and practical characteristics of the internal reasons, the internal factors of lexical fossilization are mainly divided into the following four aspects.

1. The mediating role of the first language lemma. The mediating role of first language lemma often occurs in the second stage of development of the mental representation of the second language vocabulary, which is also being called L1 lemma mediation stage [11]. In this stage, the lemma space of the second language vocabulary is occupied by the lemma information of the corresponding word in the first language, which leads to the fossilization of second language lexical learning.

2. The frequent use of superordinate in daily life. From the perspective of cognitive psychology, people tend to describe and define what they see in a simple and general way [12]. Therefore, people's excessive use of superordinate will often make the meaning of subordinate be ignored in the second language lexical learning, which results in lexical fossilization.

3. Learner's motivation affects the final learning performance. Motivation refers to the choice people make as to what kind of goals they will approach or avoid, and to what degree of effort they will exert [13]. Motivation is also mentioned in the final hypothesis in Stephen Krashen's theory of the Second Language Acquisition—Affective Filter hypothesis. Krashen suggests that there are a number of affective variables that play a role in second language acquisition, including motivation, self-confidence, and anxiety [14]. Therefore, learners' learning motivation, to a large extent, affects the occurrence of lexical fossilization and further affects the learning performance.

4. Language learning strategies are the often-conscious steps or behaviors used by language learners to enhance the acquisition, storage, retention, recall, and use of new information [15]. Simplification for the TL, especially for the syntax, or even the omission of the

necessary information, is the most common fossilized phenomenon triggered by the inappropriate learning strategy [16].

1.4. Research on Lexical fossilization of College Students Major in English

The phenomenon of fossilization is very common in the learning process of Chinese people, so it has attracted wide attention in the academic community. The domestic study of lexical fossilization began in the late 1990s. Dai Weidong and Niu Qiang introduced fossilization from its definition, characteristic, and classification [17]. Then Dai Weidong & Cai Longquan studied the phenomenon of lexical fossilization from the aspect of language structure [18]. They suggested the relationship between symbols and images is arbitrary, which may lead to a situation that the same meaning can be expressed in multiple words. In this case, learners simplify the TL. However, oversimplification will reduce the accuracy of vocabulary, leading to the phenomenon of lexical fossilization. Qi Ailing analyzed the importance of the prototype and basic level category theory in vocabulary resolution, and put forward some positive suggestions for college English vocabulary teaching [19].

For college students majoring in English, their English level is higher than that of ordinary students, but they still encounter the phenomenon of lexical fossilization. In recent years, much attention has been paid to this issue. On the basis of previous research, Xu Ke analyzed the current Chinese English majors in Chinese translation of English lexical fossilization [16]. It explores the characteristics of lexical fossilization in spoken language and writing in the process of translation, and points out that the main reason is that the English majors pay too much attention to the expression of Chinese texts, which makes them ignore function words. Liu Shuang used qualitative research method to analyze dispelling lexical fossilization of Chinese college students based on the iconicity of Langacker’s grammar, with the purpose of improving the “quantity” and “quality” of English vocabulary of Chinese college students and offering some pedagogical proposals to improve English vocabulary teaching effect of college students [20].

Although these studies have generally explored the causes of lexical fossilization, there is no systematic study on the analysis of the internal causes. Therefore, this paper focuses on the internal factors of lexical fossilization of college students major in English.

2. METHODOLOGY

In order to investigate the internal causes of lexical fossilization among colleges in English majors, the researchers conducted an online questionnaire. In total,

the researchers designed 32 questions about the internal causes of lexical fossilization. The topic covers four aspects: (1) the influence of the first language; (2) the impact of the frequent use of superordinate in English vocabulary learning; (3) learners' learning motivation; (4) learners' vocabulary learning methods. The online questionnaires were mainly sent to junior English majors in Southwest University. Finally, the researchers collected 35 questionnaires, of which 30 were valid.

3. RESULTS

3.1. The Mediating Role of First Language Lemma

The mediating role of the first language lemma refers to the fact that the lemma space of the second language vocabulary is occupied by the lemma information of the corresponding word in the first language. It explains the reason for the phenomenon of lexical fossilization in Chinese English majors from the perspective of mental representation.

Levelt first proposed the model of the internal structure of the lexical entry [21]. He mentioned that lexical entry involves lemma which refers to the semantic and syntactic information of a word, and lexeme, including the shape, pronunciation, spelling and other information of a word. The information contained in lexical entry constitutes the lexicon of a certain language, and whether the language learner can grasp and understand the information of a language lexicon is related to the success of language learning. In other words, when learning a language, understanding and mastering the corresponding semantics, syntactic meaning, shape, spelling, and pronunciation of a word in the language is one of the decisive factors for learning the language.

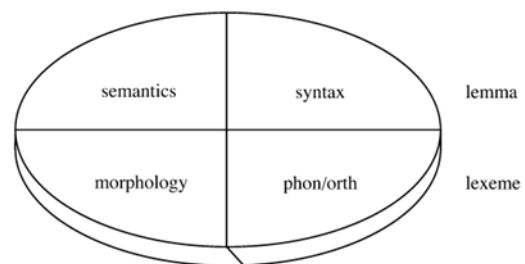


Figure 1 The internal structure of lexical entry (adapted from Levelt 1989).

Based on the internal structure of lexical entry which was came up with by Levelt in 1989, Jiang proposed the three important stages of lexical development in L2 [22]. The first stage is also called the form stage. At this stage, the lexical entry in L2 only includes the phonetic and form information. In other words, second language learners will only devote most of their energy to the memory of the pronunciation and spelling of the word in

the elementary stage. Meanwhile, Jiang believed that there is a hidden indicator in the human brain at this stage that can automatically associate the form and phonetic information of the word in L2 with the form and phonetic information of the corresponding word in the learner's native NL, forming a kind of conditioned reflex.

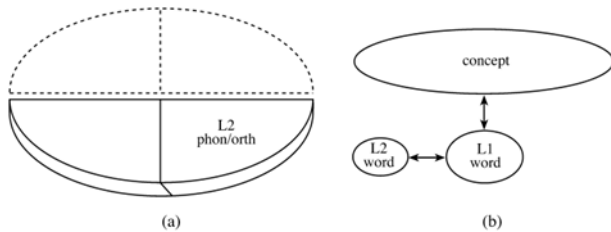


Figure 2 Lexical representation (a) and processing (b) at the initial stage of lexical development in L2 (adapted from Jiang 2000).

The second stage of lexical development is also called L1 lemma mediation stage. At this stage, the lemma part of a word in L2 is activated, and it is connected with the lemma information such as semantic and syntactic meaning of the corresponding word in the learner's NL. However, the characteristic of this stage is that the lemma space of a word in L2 is occupied by the lemma information of the corresponding word in NL, instead of being occupied by the lemma information of a word in L2 itself.

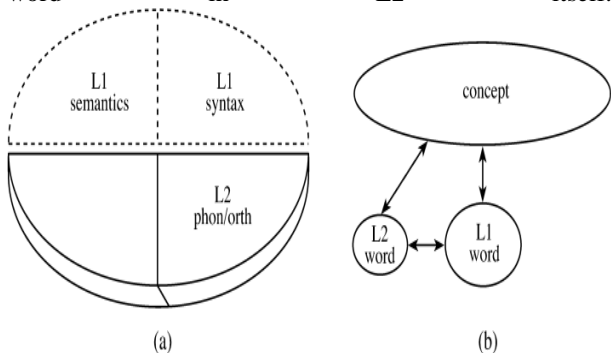


Figure 3 Lexical representation (a) and processing (b) in L2 at the second stage (adapted from Jiang 2000).

The third stage of lexical development in L2 is called L2 integration stage. This stage is the highest stage that can be achieved in second language lexical learning and it is also the most ideal stage. The lemma information of the word in L2 is highly integrated and integrated into the lexical entry. Meanwhile, the semantics of a word in L2 can be directly connected with the concept of that word, so as not to be interfered and influenced by the intermediary of the NL.

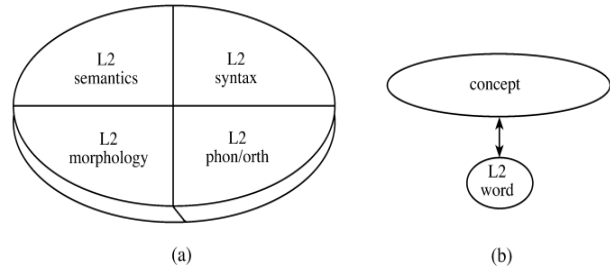


Figure 4 Lexical representation (a) and processing (b) in L2 at the third stage (adapted from Jiang 2000)

The majority of Chinese English majors belong to the intermediate and advanced groups of English learning, and the learning of English vocabulary has also entered the second stage of lexical development in L2. However, few of them can really reach the third stage mentioned by Jiang. Most of them will stagnate in the second stage of development, which is the so-called lexical fossilization. One of the main reasons for this phenomenon is that the mediating role of the first language lemma often occurs at this stage. According to Li [23], due to the existence of prepositions in the mother tongue at the second stage of lexical representation, language learners' exposure to the vocabulary context at this stage only strengthens the connection between the L2 vocabulary and the NL, rather than the lemma and lexeme in the L2 vocabulary, which makes L2 learners only pay attention to the form of memorizing L2 vocabulary, while the semantic and syntactic information has not been developed at the same time.

In order to prove the correctness of the statement, we conducted a questionnaire survey with 30 Chinese English majors. This questionnaire involves such a question "How to translate '黑面包' into English?" (the English word directly corresponding to the Chinese character "黑" is black, "面包" refers to bread in English). According to the questionnaire data, among the 30 Chinese English majors, only 9 of them correctly translate "黑面包" into "rye bread" or "brown bread". There are 18 students directly translate "黑面包" into "black bread" based on the character "黑" corresponding to "black" in English. And there are 3 students who do not know how to translate at all. It can be seen from the above data that the mediating effect of Chinese lemma is very common when Chinese English majors learn English words. This also explains why many Chinese English majors have lexical fossilization in English vocabulary learning that they can not use or even use the wrong words. If this problem is not resolved, then their stagnation in the second phase would be permanent.

3.2. People’s frequent use of superordinate in daily life

In the field of cognitive linguistics, scholars generally believe that people prefer to understand and generalize external things from the commonality or basic characteristics of a class of things. This psychological feature is called categorization and Wang believed that categorization is a basic cognitive method and means for human beings to understand the world [24]. It is precisely because of the driving force of this categorization of psychological factors and superordinates themselves have the characteristics of abstract and general description of things, people tend to rely more on the use of superordinate in daily life and study.

In fact, this phenomenon is obvious in the process of Chinese English majors in learning English words. They will be more inclined to consciously focus on learning and using some key superordinates, while ignoring the learning of corresponding hyponyms. For example, when they see a kind of flower, they may only express “this flower is so beautiful” instead of “this chrysanthemum is so beautiful” or “this peony is so beautiful”. That is because they do not know how to express the hyponyms of “flower” such as “chrysanthemum” and “peony” in English.

In order to illustrate this point, we asked 30 Chinese college students majoring in English such a question in the questionnaire: “Which of the following words can represent instrument” (the following words including “tool”, “ruler”, “hammer”, “spanner”, “saw” and “screwdriver”). According to the survey data, 90% of the students surveyed know the synonym of instrument “tool”. There are 60% of students know the common hyponyms of “instrument” such as “ruler” and “hammer”. However, for some rare hyponyms such as “spanner”, “saw” and “screwdriver”, the number of people who know these words only accounts for one-third of the total number of people. It can be seen that the excessive dependence of Chinese English majors on superordinate has caused them to be restricted in the breadth of vocabulary learning. When the vocabulary of these simple superordinate becomes saturated, lexical fossilization will occur and it will be very hard to eliminate.

3.3. Motivation

Motivation is a kind of incentive or impulse that drives people to sustain the long and often tedious learning process, so motivation can influence the efficiencies in learning a second language. For decades, studies in this field have been principally related to describing, measuring, and classifying its function in theoretical models of the language learning process [25]. And there are mainly two types of motivation

directing English learning: preparing for English examinations and increasing the language competence in the future job market.

English examinations are the most general force for the students to learn new words in that to prepare an examination requires students to memorize a large number of words. There are two major examinations in China that are specifically designed for English-major students—Test for English Majors-Band 4 (TEM4) and Test for English Majors-Band 8 (TEM8). Both of them are of vital importance to English-major students, so they will recite huge numbers of new words before the examinations. On the one hand, examinations give students the motivation to recite new words. On the other hand, students will soon forget those words after the examination because of the utilitarian purpose.

The application for jobs in the future is the other major motivation. With the globalization of the world, more and more companies require their employee use English in the work. Compared to students major in other subjects, English major students have a higher standard toward English skills, including listening, speaking, and writing, based on memorizing a large number of English words. In the meantime, reciting so many words in a period of time causes the lexical fossilization increasingly.

3.4. Learning Strategies

Learning strategies are specific actions, behaviors, steps, or techniques that students consciously use to improve comprehension, internalization, and use of second language based on Oxford [26]. In applied linguistics and psycholinguistics, the research points out that learning strategies are the key activities in learning a second language [27]. In the following content, there are three aspects.

Table 1 Way of learning words.

	Rote Learning	Content-based Learning
Number of people	17	13

First, there are two basic ways to recite words—learn by rote and remember the words based on the content or sentence. Table 1 shows that students have a preference for rote memorization. Rote learning facilitates short-term memory. However, students will forget the words quickly as they do not understand what the actual meaning of the words is and do not know how to use them. On the contrary, students can remember the new words for a long time based on the understanding of the content or sentence. Although taking much of their time, it is a valid way to increase their lexis. If

students only pursue the quantity and ignore the quality, it is easy to cause fossilization.

Table 2 Way of reciting words.

	Recite words loudly	Recite words in silence
Number of people	8	22

Besides that, on the strength of the current research, reciting words loudly do help students remember the word deeply. The first reason is that the vision, the hearing, and the vocal cords involve memorizing the words loudly. What's more, students can remember the pronunciation deeply. In this Table 2, there are more than half of students will recite the words in silence. At some point, these students are accustomed to remembering the spelling and ignoring the pronunciation, which will result in mute English. In China, mute English is a common phenomenon because people cannot speak English well and have a poor listening comprehension as a second language. They can know the words when they come cross them in an article. However, their mind will be blank while listening. The final result of all these is lexical fossilization.

Table 3 Understanding of the word meaning.

	Basic meaning	Whole meaning
Number of people	23	7

The last but not the least, the meaning of the words is very critical in second language learning. And many words are polysemes. If the extra meaning appears in the content or article, students may not understand them correctly in that they only have a command of basic meanings. And they are unable to use the word appropriately when writing. It will cause some misunderstandings in listening as well. According to Table 3, 23 students only recite the basic meaning. Contrarily, reciting the basic meaning not only cannot help students have a better understanding of the new words, but also will cause lexical fossilization.

4. CONCLUSION

The phenomenon of fossilization is a kind of stagnation and rigidity of vocabulary mastery, which is very common among Chinese English learners. This paper mainly investigates the internal reasons for lexical fossilization among college English majors. There are four main findings:

First of all, the mediating role of first language lemma often affects the development of the second language. Learners habitually rely on the information of first language in the process of the second language learning. This way of learning and thinking will lead to lexical fossilization. Secondly, learners frequently use superordinate in their daily life. From the point of view of cognitive psychology, people tend to describe and define what they see in a simple and general way, and rarely use hyponym to express accurately and concretely, which will lead to lexical fossilization. In addition, lack of interest in the exam-oriented learning motivation lead to many learners cannot understand the deep meaning of words and fundamentally master the words, which results in lexical fossilization. Finally, bad vocabulary learning strategies and lack of high-quality input are also important factors leading to lexical fossilization. For example, memorizing words by rote and memorizing the basic meanings of words will lead to a significant deficit in the depth and breadth of the comprehension of words and lead to lexical fossilization. However, because students' individual lexical fossilization errors are mostly in a temporary state, we can take effective measures to reduce or even eliminate the problem of lexical fossilization. For example, enhance learners' interest in the process of learning English and adjust other purposes of learning (such as for examines); adjust the learning strategy, find the suitable learning methods for improving the quality of input. In addition, learners should abandon the "crutch" of the first language and avoid the method of memorizing words directly from English and Chinese, but use the context input method to learn and remember words. Moreover, pay more attention to the use and memory of hyponym reduces the generalization of semantics.

However, there are also some limitations in this paper. On the one hand, only 30 sets of data were collected due to the limitation of time and ability. And the subjects are limited to English major students, there is no investigation and research on students of other majors. In addition, the solution to the problem of lexical fossilization has not been proved by practice. It is only a preliminary attempt to the de-fossilization. So the authors put forward some suggestions for future research such as increasing the number of samples, expanding the range of subjects, and carrying on the practice on the proposed countermeasures.

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