

# Teaching Implications of Interlanguage Fossilization

Peiwei Wang

Xi'an Shiyou University, Shaanxi, 710065, China

---

**Abstract:** Interlanguage Fossilization Phenomena is an observable phenomenon of interlanguage speech stagnation, which is universal, independent of age, gender, and time, and is an important feature in the study of second language acquisition. With the in-depth study of interlanguage fossilization phenomena, the research results on the causes of fossilization are more abundant, and scholars have made specific elaborations from various aspects such as psycho-cognitive, neuro-physiological, and social environment. This paper discusses the relationship between fossilisation and second language teaching from three perspectives: the causes of fossilization, the research methods of fossilization and the measures to deal with fossilization, so as to provide new ideas for improving the quality of teaching.

**Keywords:** Second Language Acquisition; Fossilization; Fossilization Cause; Empirical Method; Strategy.

---

## 1. An Overview of Interlanguage Fossilization

Selinker first proposed the concept of interlanguage in his paper "Language Transfer" (1969). Interlanguage is seen as a dynamic language system between the mother tongue and the target language. It is an observable and independent language system with its own internal laws. Foreign scholars believe that the development of interlanguage mainly goes through two stages: the early stage of the generation of interlanguage theory and the later stage of the research of interlanguage theory. Corder, Nemser and Selinker, the main contributors to the early interlanguage theory, explained the existence of interlanguage from different perspectives, and their theories are similar. Later studies on interlanguage theory are related to sociolinguistics and psycholinguistics. For example, Torane proposed interlanguage variation from the perspective of sociolinguistics, thinking that learners' language ability was affected by environment changes, which enriched the theoretical connotation of interlanguage.

Fossilization, also called rigidity, is an important feature of the development of an interlanguage, occurring at any stage of its approach to the target language.

Selinker first proposed the concept of fossilization of interlanguage in 1972. He believed that some language items, grammatical rules and systematic knowledge of learners tend to be in a fixed state, and this fixed state will not change with the increase of learners' age and learning amount<sup>1</sup>, this phenomenon is called fossilization of interlanguage. Some scholars believe that fossilization is a product of learning, while others believe that fossilization is a process. In short, fossilization is an objective existence in second language acquisition and has its own characteristics. Bley-Vroman (1989) pointed out that the fossilization phenomenon is different, that is, under the same conditions (learning environment, learning time, target language input), the fossilization phenomenon of learners will be different. Han (2009) pointed out that fossilization is selective, that is, fossilization is not all fossilization in the field of learning. In the process of learning, learners cannot be stagnant in all aspects, but selectively stagnant.

According to the subject of fossilization, it can be divided into individual fossilization and group fossilization.

Individual fossilization mainly includes the fossilization of error representation and language ability. Group fossilization is when fossilized foreign language ability becomes the norm for a group, e.g., Hinglish. Littlewood (2000) divides fossilization into individual fossilization and community fossilization based on the characteristics of immigrant dialects. It is believed that individual fossilization precedes and resides in community fossilization. The petrification phenomenon is divided into temporary petrification and permanent petrification according to the duration of the petrification error. Many scholars believe that effective external intervention can break the temporary fossilization and make learners' target language ability further on the basis of the original. Therefore, in the second language teaching, the differentiation of fossilization can provide an important reference for teaching methods, so as to avoid temporary fossilization turning into permanent fossilization due to lack of effective intervention.

## 2. The Causes of Interlanguage Fossilization

Since the 1970s, many scholars at home and abroad have conducted detailed research into the causes of fossilization from various angles. It is mainly divided into internal factors and external factors. The internal factors are closely related to the second language learners, while the external factors are related to the environment in which the second language learners live. Based on the views of scholars at home and abroad, the author will discuss the causes of fossilization from three aspects: psychological cognitive factors, neurophysiological factors, and cultural environmental factors.

### 2.1. Psychological Cognitive Factors of Interlanguage Fossilization

According to Selinker (1972), fossilization occurs for the following five reasons: language transfer, training-induced transfer, generalization of target language materials, second language learning strategies and second language communication strategies. He called these five factors "potential psychological cognitive structure". This "underlying psychological cognitive structure" is related to what Chomsky called the "language acquisition mechanism".

He believes that 95% of learners will be affected by the above factors, resulting in the fossilization of interlanguage, so it is difficult for learners to reach the level of native speakers. Only 5% of learners can effectively activate the "underlying mental cognitive structure", avoid the influence of these factors, and reach the same level as native speakers.

Krashen (1985) investigated the fossilization of interlanguage from the perspective of the cognitive process of language acquisition, and proposed five hypotheses in terms of insufficient language input, language quality discomfort of input, affective barrier, output barrier, and acquisition of language variant forms of the target language to explain the causes of fossilization of interlanguage. Therefore, in the input hypothesis, he proposed the  $i+1$  theory, which holds that learners should be provided with understandable language input slightly higher than their current level to help them acquire the target language; otherwise, fossilization will occur in the process of acquisition.

## 2.2. Neurophysiological Factors of Interlanguage Fossilization

Lamendella (1977) proposed the famous "critical period hypothesis", which looks at the critical period from the perspective of developing and maturing a particular nervous system. After the critical period, the unilateral brain function leads to the loss of brain plasticity, and learners' learning ability will enter a stagnant stage, resulting in fossilization. Chinese scholar Feng Guoxin (2001) also proposed the same view, suggesting that rigidity is caused by the degeneration of the plasticity of brain language acquisition mechanism after entering adulthood.

Lamendella also introduced the concept of 'infrasytem', a second language system established by learners after mastering their native language. He argued that due to the underdeveloped development of the secondary system, learners will rely on the first language system to learn the target language, and therefore, 95% of learners will be in the transitional language stage (a view that matches Selinker's view), which ultimately leads to fossilization.

## 2.3. Social and Cultural Factors of Interlanguage Fossilization

Corder (1978) believed that once the content learners have learned has met the current communication needs, learners will stop learning, and this phenomenon of interlanguage will come to a standstill and fossilization will occur. Schumann (1978) believes that cultural transfer is an important reason for the fossilization of interlanguage, and the acquisition of a second language is an aspect of cultural convergence, and the degree to which a second language learner integrates the culture of his or her own country with that of the target language determines the success or failure of the learning effect. If the cultural difference between the target language and the mother tongue is great, the social and psychological distance between the learner and the mother tongue will be greater, and the chance of success in language learning will be small. Learners will have a conflict against the target language, resulting in fossilization.

Han Zhaohong's "Ossification in Adult Second Language Acquisition" (2008) proposed that fossilization is the result of the synergistic effect of multiple reasons, and the causes of fossilization should be analyzed from both macro and micro perspectives. The causes of fossilization are divided into 50 aspects, including neurobiological factors, environment,

society, culture and emotion. The classification of causes is comprehensive and persuasive.

## 3. Empirical Methods of Interlanguage Fossilization

Empirical research plays an important role in the fossilization of interlanguage. Only after empirical testing, the fossilization of interlanguage will not be called "hypothesis". Han (2004) and Selinker (1999) divides the empirical methods of interlanguage petrification into the longitudinal approach, the typical-error approach, the advanced-learner approach, the corrective-feedback approach, and the length-of-stay approach. The following five empirical methods are discussed.

### 3.1. Longitudinal Approach

Longitudinal approach is a corresponding method to latitudinal approach, also known as longitudinal research. A method of observing, recording and analyzing a group or an individual in a temporal manner over a period of time. It focuses on the dynamic change process of the research object in a certain period of time. There is some controversy about the time span in diachronic research, that is, how long to judge the stable period of fossilization and when the precursor of fossilization will appear. According to Selinker, the fossilization of interlanguage will occur after the stabilization period lasts for five years, but this standard has not been put into specific empirical studies as a strict reference standard. Hulstij (2002) pointed out that due to individual differences of learners, the time needed to learn the same target language is different. Therefore, it is difficult to judge how long it takes for interlanguage fossilization to become completely fixed.

Wu Ding'e (2001) mentioned that some students in remote and poor areas had incorrect phonetic training patterns, which resulted in phonetic fossilization three years later. Here, the existence of diachronic research can be faintly seen. Domestic scholar Dai Weidong (1999) conducted a longitudinal study related to diachronic analysis of learners of different degrees, and obtained the basic rules and developmental characteristics of interlanguage fossilization. Liu Min (2008) then conducted an 8-month case study of an English learner and analyzed it. As far as the existing literature is concerned, there are few literatures using diachronic research methods, and there is a lack of empirical data based on long-term observation. This method will also become a new development direction of future research.

### 3.2. Typical-error Approach

Typical error approach is a kind of analysis and research on the phenomenon of language rigidity in the process of second language learning by students with similar language environment. Chinese scholars Yu Li and Wang Jianwu (2006), aiming at students' mistakes in grammar, vocabulary and expression in English writing, further explore the petrification phenomenon and put forward teaching suggestions on it. However, this method also has some shortcomings. Typical errors are not exactly equivalent to fossilization. If a student does not have such mistakes as Fan, it cannot be proved that the student does not have fossilization in his study.

### 3.3. Advanced-learner Approach

This method takes high-level target language learners as

the research object and takes long-term retained and fixed characteristics of learners as the research content. Hyltenstam (1988) argued that, relatively speaking, the difference between high-level learners and native speakers is relatively small, so it is easy to study, and those few that do not conform to the norms of the target language should be included in the scope of fossilization research. Zhang Han (2020) studied the tones of advanced Chinese learners and found that the correct rate of tones of advanced Chinese learners was much higher than that of elementary and intermediate students, and the problems existing in elementary and intermediate tones could be corrected, indicating that the temporary rigidity in the learning process could be changed. Through the research, it is found that most domestic scholars' researches on high-level learners tend to be phonetic, and lack systematic researches on vocabulary and grammar.

### **3.4. Corrective Feedback Approach**

Selinker and Lamendella (1978) pointed out that in order to confirm the existence of fossilization, it must be proved that learners cannot continue to develop interlanguage when they have the ability and motivation to learn. Corrective feedback is a research method proposed based on this theory, that is, teachers give error correction feedback to students, and students still cannot change the error after receiving the feedback, indicating the existence of fossilization. By observing error-correcting feedback in college English classes, Yu Ruirui (2014) learned that students are easy to accept teachers' oral error-correcting feedback. Error-correcting feedback can not only effectively promote the development of interlanguage continuum, but also effectively avoid the generation of fossilization in class. However, this research method is restricted by the effect of teachers' error correction. Teachers have different understanding of errors and adopt different error correction mechanisms. Some teachers simply do not correct errors for fear of hurting students' confidence, which will affect the development of learners' interlanguage.

### **3.5. Length of Residence Approach**

Residence time is based on the time spent in the country of the target language. It is believed that the amount of input learners is exposed to is proportional to the residence time. This method has been questioned by many scholars. Klein (1993) pointed out that the level of learners is important for the intensity of communication rather than the length of stay. It seems that the length of stay cannot be the only basis for quantifying learners' interlanguage development. In conclusion, although the research methods of interlanguage fossilization have their own advantages and disadvantages, they also provide ideas for the study of fossilization. In addition, in terms of research objects, domestic scholars prefer domestic second language learning, and there are few researches on fossilization in Chinese learning. Therefore, when studying petrochemical phenomena, various factors should be considered comprehensively and the advantages of each method should be combined to select a more scientific research method.

## **4. Strategies and Suggestions for Coping with Petrochemical**

The phenomenon of "ossification" is a key link in language development and will inevitably occur in the process of

language learning. Therefore, we should correctly recognize the phenomenon of "fossilization" and take corresponding countermeasures to maintain it near the "peak" state and avoid "permanent fossilization".

### **4.1. Ensure the Quantity and Quality of the Input of the Target Language**

Krashen believes that comprehensible input is the basis of output, that is, teachers need to give appropriate input based on students' current level. Especially in the primary stage, learners are susceptible to the negative transfer of mother tongue, so teachers should pay attention to the amount of comprehensible input, reduce the interference of mother tongue, and then strengthen students' "speaking" practice to avoid the transient fossilization of mother tongue. According to Schumann, cultural migration is an important cause of fossilization. Therefore, the input language should contain the cultural connotation of the target language, enhance students' sensitivity to the target language culture, narrow learners' "psychological distance" and "social distance" from the target language culture, and make the language expression more in line with the expression norms of the target language. In addition, teachers should prepare lessons, students and textbooks carefully, and adjust teaching content flexibly according to textbooks. For example, according to the current level of students, delete the superclass vocabulary, increase the communication practice of common words, to ensure the output of students in class.

### **4.2. Reduce the Negative Impact of Emotional Factors**

Emotional factors play a very important role in second language acquisition. In fact, some researchers believe that emotional factors are more important than cognitive factors. Krashen proposed the "affective filtering hypothesis", believing that learners' learning motivation, attitude and anxiety level can all produce shielding effect, so the negative influence of emotional factors should be reduced in teaching. Niu Qiang (2000) suggested that teachers should flexibly use teaching materials and adjust teaching methods according to learners' acceptance ability, so as to keep students' interest and motivation in learning as much as possible. It is necessary to make full use of the positive feedback mechanism to encourage and praise students, so as to enhance their self-confidence in the learning process, let students get a sense of achievement, let them realize the benefits of learning a foreign language, and enhance their enthusiasm in learning English. We should have a tolerant attitude towards learning mistakes and adopt appropriate error correction mechanisms. Students' mistakes should not be ignored and allowed to develop, resulting in fossilization.

### **4.3. Guide Learners to Change Their Learning Strategies**

Selinker pointed out that the learning strategy of second language learners is the main reason for the effect of second language learning. Second language acquisition is a learner-centered language learning activity. Therefore, learners should become the main body of learners. When learning the target language, students will consciously or unconsciously mobilize their original cognitive strategies to help them complete the learning task. However, learners often cannot choose learning strategies suitable for learning tasks, but choose familiar cognitive ways to learn. Therefore, incorrect

or inappropriate learning strategies lead to learner failure in learning tasks, resulting in rigidity. Therefore, in the teaching process, teachers should consciously guide learners to change their incorrect learning strategies, take advantage of the situation, make full use of learning strategies, cultivate learners' learning ability, help learners set up long-term goals and short-term goals, and use learning strategies reasonably based on learning goals to become an active language acquisition player.

## 5. Conclusion

To sum up, domestic and foreign scholars have done empirical studies on the fossilization of interlanguage, which have proved the objective existence of fossilization in second language acquisition, and effective strategies can be adopted to delay or intervene the generation of fossilization. Therefore, in second language teaching, both teachers and students need to have a positive understanding of fossilization, and realize that fossilization is not a synonym for "wrong", but a normal phenomenon in second language acquisition. Measures should be taken to control the underlying psychological cognitive structure of fossilization and promote the continuous development of interlanguage.

## References

- [1] Selinker L. Interlanguage[J]. *International Review of Applied Linguistics*, 1972.
- [2] Selinker L, Lamendella J T. Two perspectives on fossilization in interlanguage learning [J]. *Interlanguage Studies Bulletin*, 1978.
- [3] Han Z. Fossilization in adult second language acquisition[M]. *Multilingual Matters*, 2004.
- [4] LIU Xun. Introduction to Teaching Chinese as a Foreign Language [M]. Beijing: Beijing Language and Culture University Press, 2000.
- [5] Niu Qiang. Fossilization of transitional language and its teaching Implications [J]. *Foreign Languages and Foreign Language Teaching*, 2000(05).
- [6] Cui Gang, Wang Yuemin. Fossilization in foreign language learning from the perspective of cognitive neuroscience [J]. *Foreign Language Research*, 2019,37(02).
- [7] Dai Weidong, CAI Longquan. The basis of cognitive generation in interlanguage [J]. *Foreign Language and Foreign Language Teaching*, 2001(09).
- [8] Guo Yingwen. On the Input and Output of Oral English Classroom Teaching in Advanced stage of Chinese as a Foreign language [J]. *International Chinese Language Education*, 2014 (02).
- [9] Li Zhong. The causes and countermeasures of interlanguage fossilization [J]. *Journal of Jilin Provincial Institute of Education*, 2018,34 (08). (in Chinese)
- [10] Gao Yun, Zhu Jingmei. The emergence and prevention strategies of language fossilization [J]. *Foreign Language Teaching*, 2005(03).
- [11] Lin Qiong. A study on the external causes of second language fossilization [J]. *Journal of Tangshan College*, 2002(01).
- [12] Chen Wencun. A review of fossilization in foreign language and second language learners [J]. *Foreign Language Teaching Theory and Practice*, 2010(01).