



Enlightenment and Help Can Apply to Chinese Native Speakers from CPH in Their Second Language Acquisition

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Abstract. Starting from the critical period hypothesis, this paper attempts to explore its role in second language acquisition, and will find and look for any enlightenment and help in this process that can be applied to Chinese native second language learners. As a physiological concept, the critical period hypothesis is still controversial as to whether it can be fully applied to second language acquisition, but this article will explore its applicability in the Chinese second language teaching system. China's second language teaching system is very special, and the teaching modes and methods derived from this system are also very different from the usual second language acquisition process. In the end, the following points can be drawn: 1. The connection between second language acquisition and the critical period hypothesis has not been formally proven; 2. There are more factors that can affect second language acquisition beyond age; 3. Language acquisition does decline with age; 4. The second language environment in China is not sufficient to support the existing second language acquisition theories and methods; 5. Changing the classroom teaching mode and inputting children's second language at an early stage will be a good choice.

Keywords: Critical Period Hypothesis · Second Language Acquisition · Foreign Language Teaching in China

1 Introduction

At the beginning of the 20th century, the Internet brought people together, and the world entered the information age. The means for people to obtain information have also become more convenient. Under this influence, the cultures and languages of various countries spread rapidly around the world. In this day and age, being able to master a foreign language is not uncommon. For example, in American high schools, all students must take foreign language courses to graduate. In China and other non-English speaking countries, introductory courses in English language learning are offered from elementary school. Whether learning a foreign language is out of the original intention of the students, we cannot say for the time being, but it can be said that this is the trend of the times and society. Today, the reform of foreign language subjects in China's college entrance examination and the emergence of a large number of international students can

show that second language acquisition is being transformed into a life skill and integrated into people's lives. According to previous research by linguists, this case can be known as that age is one of the main factors affecting second language acquisition.

On this basis, an idea called the "critical period hypothesis" is proposed. Neurosurgeons Penfield and Robert first proposed this idea, and Lenneberg finally carried out integration and follow-up research that attempt to prove the existence of CPH [1]. But so far, the research on the critical period hypothesis has remained in the scope of physiology, and the research itself has not established much connection with SLA. The reason is that the birth of this research is based on the treatment of orphans with aphasia [2]. This proves that in the early stage of the research, this is done for first language learning and has little connection with SLA, and the argument about whether there is a critical period for SLA still becomes controversial. The opposing party firmly believes that, compared with the biological point of view, the language input method, environment, and social factors will be the most significant impetus during second language learning and acquisition, while the supporting party believes that the critical period hypothesis has experimental solid results. The support point, during this period of time, could not be overthrown by any method. These are the two main arguments around this topic, and some scholars have proposed that the critical period hypothesis has insufficient evidence and is not as realistic as the "sensitive period." No matter which side these scholars stand on, in the long history, some of these experiments combining SLA and critical period hypothesis and some of the statements put forward can still give a new way of thinking to the academic community.

What enlightenment and help the critical period hypothesis will bring to today's Chinese students will become the leading research direction of this paper. Although the critical period hypothesis is still controversial, it is still possible to start the research on the critical period hypothesis in China and abroad for comparison and analysis. Since the educational environments and systems in China and foreign countries are fundamentally different, along with the differences in language systems, whether there will be a different trend in the follow-up research of the critical period hypothesis will become the focus. Since the research on the critical period hypothesis is still controversial, and this theory initially originated in the field of physiology, applying it directly to SLA will cause many problems, so the research goal will be the research based on the critical period hypothesis, whether it will give us bring any revelation.

2 CPH-Based Origin Research and Subsequent Derived Research Links to SLA

The secondary sources involved in this study are papers, journal articles, and dictionaries. Specific data and research findings from papers and journals are included in exploring the definition of the critical period hypothesis and previous experiments. Data and results from previous studies can be found in papers and journal articles containing the initial sources and experiments of the critical period hypothesis, experimental results combining the SLA and critical period hypothesis, theoretical reviews that disapprove of the critical period hypothesis, and sensitive. The origin and explanation of the period

theory. The dictionary section organizes many academic words, such as words unique to physiology and explanations.

The CPH (Critical Period Hypothesis) mainly discussed in this paper is an age-related hypothesis. According to Lenneberg's views [2] on "The Biological Foundations of Language," Lenneberg believes that language acquisition is based on genes. Environmental impact cannot impact language acquisition. From the experimental results of children with congenital language defects, since some of the children in the experiment were orphans, this "congenital language defect" is essentially artificial; it can be seen that even if the children who lacked education and environmental influence in the early stage of the experiment could not reach the same level of language level as ordinary children, but after receiving language education, the language level of these children has improved by leaps and bounds in a period of time and has been basically equal to the language level of ordinary children [2]. When there is a gap between learning ability and foundation, after receiving systematic education, the gap in learning content can be filled quickly. This evidence can be assumed that even though there are differences in teaching methods in the teaching process, and there are differences in individual learning ability between children, teaching methods and individual learning ability do not affect the final result, so it can be preliminarily speculated that from this point the influence of age has a substantial effect on language acquisition. In 1967, Lenneberg described his experiments and his conclusions in his article, clearly stating that "language development usually occurs after the age of 12 or 13". The theory of departure was first applied to experimental results when children with aphasia acquired their first language. The critical period hypothesis and second language acquisition cannot be fully linked in this case.

However, the experiment completed by Flege in 2002 made a primary connection between the critical period hypothesis and second language acquisition. Flege's investigation mentioned the term "bilingual advantage." He divided the experimental population into two groups, one group was native Italian speakers who immigrated to Canada from Italy at the age of 2–13, and the other group was also native Italian speakers who immigrated to Canada from Italy at the age of 15–26. The experiment results were divided by the accent of the second language, and the accent of the native Italian speakers aged 2–13 was significantly less pronounced than that of the 15–26-year-old group. This result leads Flege to believe that second language acquisition is partly linked to the critical period hypothesis [3]. Sebastia'n-Galle's also tried a very similar experiment, except that the criterion of the result was changed from the accent to the difficulty of distinguishing words [4]. Even so, whether there is an absolute connection between second language acquisition and the "critical period" remains controversial. Factors such as motivation, study skills, and the environment are thought to be more influential in second language acquisition [5]. And David Singleton proposed that in second language acquisition, there is no connection between the time of learning a word and the critical period, driven by a type of memory called "declarative memory" [6]. When this type of memory is applied to learning foreign language words, the learner consciously learns the words. This type of memory usually occurs at the same time as another type of memory, that is, implicit memory. Implicit memory is a long-term memory type. As people grow older, this memory will be gradually depleted, and the consequences of the depletion will

immediately affect the efficiency and ability related to second language acquisition. This is also the most common view when applying the critical period hypothesis to second language acquisition: “second language learning ability declines with age.”

Hakuta experimented with the opposite point of view by collecting data from the 1990 US census and sampling different states; the final result was 2,016,317 Spanish speakers and 324,444 Chinese speakers [7]. This experiment researched the following five points: immigrant age (including different age groups), education level, Chinese speakers, Spanish speakers, and English proficiency level. The final results of these studies can be drawn, demonstrating the lack of continuity in the evidence for critical periods and the lack of identification of potential stages of learning a second language at the corresponding age. On the contrary, it can be clearly seen that the educational level and the time of immigration become the focus of influencing second language acquisition. The efficiency of second language learning does decline with age, but no key period features are found in this decline.

2.1 Problems of SLA in China

In China's research, Peng Jian from Hunan University investigated the situation of English learning from kindergarten to college and found that there were very big problems in the connection between teachers and teaching materials. And later on, college students' CET4 and CET6 exams were investigated. The results of the research proved that learning English earlier did not prove that it has a positive impact on students' English learning. The scholar showed that there are essential differences in the learning patterns of adults and children. Adults have social experience and learning methods that children do not have, which makes adults better than children in terms of memory, intelligence, and learning motivation when learning a second language. The advantages of children are the advantages of pronunciation and listening, and the difference between English learning and second language learning of Chinese students is proposed. Therefore, neither the critical period hypothesis nor SLA can be directly applied to English teaching in China [8].

Compared with Peng Jian, Yang Mei, another Chinese scholar, conducted a sample survey of Chinese non-language majors from different families, educational levels, starting age of learning English, and professional levels of English. The conclusion is that 11–14 years old is the best stage for Chinese students to learn English. Yang Mei also pointed out that children will have obvious advantages compared with adults in terms of pronunciation and listening, but also proposed that the learning trend of adults is due to the plasticity of the brain in physiology. changes, will not be as good as children in second language learning.

The current situation of second language teaching in China has been dramatically influenced by the United Kingdom and the United States. Since the United Kingdom and the United States have respectively represented the top positions in the world in the past two centuries, English has gradually become the international language for this reason. After that, many articles and studies related to applied linguistics or second language acquisition in the world are mainly focused on English, and there are few studies on languages other than English as a second language. Some scholars have pointed out

that most Chinese foreign language or second language teaching confuses the relationship between “foreign language” and “second language” [9]. As a matter of fact, there is an essential difference between the two. In short, the process of acquiring a second language is more through “acquisition,” which is a crucial difference from foreign language learning. Most of the process of second language acquisition is second only to the acquisition of the first language. Among them, the environment of second language acquisition has become the most influential factor. This environment brings not only the most basic language knowledge but will also convey the culture, pronunciation rules, and deeper information contained in the language to the learner through the language environment as a medium. This makes the process of “acquisition” and the second language environment endowed with factors other than “language,” which will include language but are not limited to language itself. On the contrary, foreign language acquisition is mainly carried out through “teaching,” which is also the current situation in China, where students receive knowledge of English in the classroom to use in their exams. Even if the teaching teacher has a very high level of English, these teachers cannot be equated with native speakers. Differences in language families and learning motivation enable learners in many European and American countries to gain more benefits when learning or acquiring a second language. Most of them use cognate languages as reference targets for second language acquisition. Cultural background and environment can make their positive transfer far greater than negative transfer. The personal benefits brought by the second language in European countries will also include eliminating racial discrimination and increasing job opportunities, which makes the existence of a second language more necessary. Compared to Chinese students’ unclear motivation and lack of a second language environment, they will be limited in second language acquisition or learning [10]. Therefore, for Chinese students, “acquisition” cannot establish a reasonable connection with “learning,” and the starting points of the two are entirely different for Chinese students.

2.2 Preliminary Conclusions Drawn from the Analysis of the Existing Literature

From the description, it can be concluded that in China, the existence of English is a very difficult position to define, but it is more inclined to the definition of “foreign language.” In China, English does not meet the frequency of daily use of a second language, “an essential reason for future survival and development” and “meeting the needs of daily life,” so it cannot be defined as a second language. When English is used as a “foreign language,” it can meet the two goals of “alternative communication method” and “completion of examinations” and is affected by the Chinese language environment so that it can be defined as a “foreign language.” It can be concluded from this that second language acquisition cannot become the primary method of English teaching in China in the short term, and English will continue to play the role of “foreign language” in China’s education system, and it will not be possible to integrate second language acquisition. The relevant theories are applied to the current English teaching in China.

Based on current literature and research and the purpose of this paper, this paper analyzes research on CPH and how it fits into SLA, looking at the topic through the lens of different countries. Based on data surveys and literature references, whether CPH is suitable for SLA is still controversial, but the generally accepted view is that “second

language learning ability declines with age,” and the impact of education style is more important in second language acquisition to stand out. China’s English teaching model has always been caught between “exam-oriented education” and “quality education,” and there are still many misunderstandings in China’s English teaching. The Chinese environment is a language environment that lacks a second language. Second language acquisition is fully applicable in the Chinese education system. [9]. These factors make it impossible to carry out second language teaching well in a country with such a large population base. However, China’s English teaching is concentrated in the classroom, and it can still be improved by starting from the classroom. The primary teaching form of the classroom does not need to be improved, but it needs to integrate the interactive and practical teaching of the classroom so that the “foreign language” can be improved [11]. “It is closer to the “second language” so that students can get a cognition from the teaching process. Their language foundation needs to rely on more external teaching to expand and mobilize their learning motivation and learning goals. At the same time, it is also possible to build a second language environment at the age stage proposed in CPH. Although it is not comparable to a pure second language environment, early consolidation based on the English language and culture can also be a more fluent link with later classroom teaching.

3 Conclusion

The link between CPH and second language acquisition has remained controversial in the past due to insufficient and discontinuous experimental evidence. As a physiological conjecture, CPH still needs more evidence that it can be applied to SLA. From the arguments of both parties, it can be concluded that there are many factors that affect second language acquisition besides age, and there is absolutely no need to stick to the age level; motivation, environment, and learning goals are also factors that need to be considered. Relatively positive, learning ability declines with age, and children’s exposure to a second language at an earlier age can significantly impact second language speech and hearing quality. How to bring CPH research into Chinese second language acquisition needs to start with Chinese second language environment and language education system. Due to the uniqueness of the Chinese education system, second language acquisition is still not fully applicable to Chinese students. English, as a common “second language” in China, still has misunderstandings in teaching. In China, English is the first foreign language that all students come into contact with. The critical teaching method is to teach English knowledge in the classroom, lack of English application and environment, and the teaching goals and students’ learning goals are mostly “completing the test”, which makes English only staying at the stage of “foreign language”, it is impossible to move closer to the second language in the short term, so it is impossible to apply second language acquisition to Chinese students in a short period of time. Therefore, it is necessary first to try to justify the positioning of the “second language.” As a country with a very large population base, China is still unable to achieve an even distribution of educational resources, and it still lacks completeness in “foreign language” teaching. On this basis, the idea of acquisition will become a long-term change and attempt. At the same time, it is necessary to reflect on whether the process of second language acquisition

can really be applied to the Chinese English teaching system, and whether more second language learners are needed. The research concluded that two positive effects could be applied to current Chinese students: early exposure to the second language and creating a second language environment as much as possible to ensure speaking and listening. During adolescence (11–14 years old), it can promote the consolidation of the second language, ensure the integrity of test-oriented education, improve the classroom teaching mode, combine internal and external factors, improve English application and mobilize Chinese students' learning motivation. Since the author does not have the experimental conditions, the entire article is based on the research of existing scholars. Due to the particularity of China's education system and national conditions, China cannot fit the SLA model in a broad sense in the early stage, but in the future research perhaps can try to prove and combine China's national conditions, and then summarize a set of SLA system suitable for Chinese students.

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