

The Implications of the Critical Period Hypothesis for Second Language Learning in College Students

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Abstract: “The critical period hypothesis” is important for the development of bilingualism in children, and it also provides insight and help for university students learning a second language. The definition and duration of the “critical period” and the mechanism of its operation are significant ways to enrich the theoretical basis of second language acquisition and to provide more practical guidance on second language acquisition.

1. Introduction

The critical period hypothesis is a very important theory of second language acquisition and has been the subject of much debate in recent decades. Whether the critical period hypothesis of second language acquisition is real? When does the critical period begin? When does it end? These questions have plagued language scholars for a long time, and there are no precise answers. In this article, we first review the findings of proponents and opponents of the critical period hypothesis, and then explore the implications of the critical period hypothesis for university students learning a second language.

2. Overview on CPH

2.1 Definition

The critical period hypothesis is the idea that a person can learn language easily and quickly at a certain stage in his or her life without external interference or instruction (Fromkin & Rodman, 1983).

In 1967, neurolinguist Eric Lenneberg, building on the work of Penfield and Roberts, formalised the idea that the optimal age for language acquisition was from two years of age to adolescence. He argued that it was not until the age of two that the infant's brain was fully developed to formally and successfully acquire language, and that after adolescence, when the lateralisation of the brain had been completed and language learning functions were mainly concentrated in the left side of the brain, the critical period for language acquisition disappeared.

In general, the critical period hypothesis was initially proposed for first language acquisition, and the relationship between second language acquisition and age has been studied by language scholars such as Krashen (1982), Michael Long (1990), Hatch (1983) and McDonald (2006), who have

reached different conclusions, building on the work of Eric Lenneberg, Penfield and Roberts.

Singleton(2005) reviewed the research results of the critical period hypothesis and believed that scholars who supported it generally suggested that the critical period of a second language was between 2 and 12 years old. However, some scholars have been skeptical of the critical period theory, and they cannot deny that age is a highly complex factor in second language acquisition.

2.2 Research Evidence for CPH

The existence of the critical period has been supported by a number of experiments and studies by scholars such as Mark Patkowski, Johnson and Newport, and Michael Long.

In 1980, Mark Patkowski tested the English proficiency of 67 college-educated American immigrants to conclude that age influences second language acquisition. His data showed that only immigrants who began learning English before the age of 15 were able to achieve native English proficiency, both in terms of accent and in other languages. The results of this study provide an empirical evidence of the critical period hypothesis theory.

Johnson and Newport (1989, 1991) administered syntactic tests to 46 Chinese and Korean speakers who had learned English at different ages. Their results showed that the age at which the subjects arrived in the United States was fairly closely related to their ability to acquire English. After the age of 7, their performance was negatively correlated with age. And those who were older simply did not reach the language level of native English speakers. This study further supports the critical period hypothesis theory.

Michael Long, a professor at the University of Maryland, conducted an experiment in 1990 which showed that children who learn a second language before the age of six are likely to achieve the ability to achieve phonological competence similar to that of their mother tongue; those who learn a second language between the ages of six and 12 are likely to develop a native accent; and only those who learn a second language before the age of 15 are likely to master it as if it were their mother tongue grammar of the second language. He therefore argues that the critical period for language acquisition for most people is between the ages of 1 and 6, and that after the age of six, the ability to acquire a second language gradually declines. At the same time, beyond the age of six, most people also have a language sensitivity period, which varies from person to person depending on individual differences.

2.3 Controversy over the CPH

At a time when the critical period hypothesis theory is in full develop, other scholars have questioned the critical period theory from theoretical to practical aspects. Examples include Stephen Krashen, Snow and Hoefnagel-Hohle, and McDonald.

The well-known linguist Stephen Krashen has proposed five hypothesis theories that have greatly enriched theories of second language acquisition. His 'input hypothesis' of second language acquisition is a central part of this. The hypothesis holds that second language learners need to be exposed to comprehensive language input that is slightly higher than their current language level in order to improve their language level. This hypothesis challenges the critical period hypothesis. Because the critical period hypothesis emphasizes the influence of age on language acquisition, and the input hypothesis emphasizes comprehensive language input, adults and children are not different.

Snow and Hoefnagel-Hohle (1978) investigated the process of acquisition of Dutch by native English speakers in children aged 8-10 years, adolescents aged 15 years and adults over a period of ten months. The experiment concluded that adolescents learn lexical and syntactic grammar best, adults second and children the worst; that there is little difference in pronunciation; and that adults

start out with an advantage in learning grammar, while children catch up later. Nevertheless, the overall performance of adolescents remains at the highest level. According to the experiment, age does not show a direct relationship with second language acquisition ability.

In addition, many Chinese scholars are sceptical about the 'critical period hypothesis'. For example, Gui Shichun in his *Psycholinguistics* points out that it is difficult to conclude what is the optimal age for learning a foreign language; Chen Baoguo and Peng Danling in *The Critical Period of Language Acquisition and its Implications for Education* point out that the influence of age on second language acquisition should not be overstated.

The critical period hypothesis has been in development for over 60 years and has been proven or 'disproven' by a number of scholars, both empirically and theoretically. However, it is undeniable that, thanks to a wealth of experimental data and the development of neurolinguistic techniques, Critical periods for second language acquisition do exist, but the exact start and end of the critical period is by no means straightforward to be generalised. The critical period cannot be studied in isolation from age as the only variable in second language acquisition, but should be viewed in the context of motivation, the learning environment and the social environment.

3. The Realistic Significance of Critical Period Hypothesis to College Students

As mentioned above, although the 'critical period hypothesis' in second language acquisition is still controversial, it is important to acknowledge the existence of the 'critical period' in second language acquisition and to use the critical period theory to enrich and expand the teaching methods for second language acquisition among university students.

By the time students enter university, most of them will have passed the age of adolescence, which means that they will have passed what is generally known as the 'critical period' for second language acquisition - the age of two to adolescence. Does this mean that university students do not have the same level of language acquisition as children? To answer this question, we should start by looking at the differences between children and university students.

3.1 Differences between University Students and Children

In terms of second language acquisition, university students and children differ significantly in terms of their physiological, psychological, cognitive, motivational and learning environments. The critical period hypothesis further highlights the different characteristics of children and adults when it comes to learning a second language.

Firstly, in terms of physiology, it has been confirmed through research by neurolinguists that humans undergo a lateralisation of the brain around the time of puberty (although the exact start and end of this is unknown). This suggests that children in younger grades will have more of a physiological advantage when learning a second language. Also in terms of memory, a large body of research data suggests that children have a stronger mechanical memory, but adults have a better long-term memory.

Secondly, psychologically, children are less likely to be distracted from learning a language and are more willing to learn and express themselves, as they have not yet developed a strong sense of self. University students, on the other hand, have a significant impact on their ability to learn a second language when they are disturbed by external factors. At the same time, university students are more likely to become bored and abandon their studies for fear of failure or frustration when learning a second language, due to their higher self-perception and higher self-esteem.

Thirdly, in terms of motivation, university students are mostly motivated by external factors, such as exams, examinations or comparison, which are instrumental motivations, whereas children learn a second language because they are in a second language environment and will learn and use

it more spontaneously and consciously after a period of study. With instrumental motivation, university students often stop learning a second language because their purpose is satisfied, whereas with integrative motivation, children develop a more long-term mechanism for learning a second language.

3.2 Implications for Second Language Teaching At University

By analysing the Critical Period Hypothesis and comparing the physiological, psychological and motivational differences in second language learning between children and university students, it can be found that the relevant enlightenment for college students to learn a second language.

(1)The existence of language critical period cannot be ignored. Although, in general terms, university students have already passed what is generally known as the critical period for second language acquisition, a review of the critical period hypothesis researches reveals that, due to individual, social and environmental differences, the critical period for language acquisition is not fixed at a certain stage. University students have just passed puberty, but the critical period for a second language may also be appropriately extended. So the earlier you learn a language, the more likely you are to be able to take advantage of the critical period for a second language. However, the impact of the CPH should not be overstated, and it is important to recognise that age is a complex and macroscopic variable in second language acquisition.

(2)Properly developing motivation for second language acquisition in university students. By comparing the motivation of children and adults for second language acquisition, it is easy to see that integrative motivation is a key factor in second language acquisition. Only by guiding college students to establish correct motivation for second language learning can they build a long-term mechanism for second language learning.

(3)Pay attention to the mental health of university students. Under the pressure of multiple mountains of school, life, emotions and employment, university students are under great psychological pressure. University students often feel intimidated or frustrated, and these factors greatly interfere with their second language acquisition. This is why the development of a good psychological profile in university students is also crucial to second language acquisition.

4. Conclusion

By reviewing the research on the CPH theory of second language acquisition and comparing the differences in second language acquisition between university students and children, we should be aware of the need for the critical period theory. However, the impact of age on second language acquisition should not be overstated. University students, as a group that has just passed puberty and is maturing both physically and psychologically, will encounter a variety of problems in learning. We should take into account the physiological and psychological developmental characteristics of university students, pay attention to their motivation and psychological well-being in second language learning, and foster better second language acquisition.

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