

The Logical Problem of SLA

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Abstract: *The relationship between age and success in second language acquisition (SLA) is controversial. Due to the importance of this issue, this study attempts to explore whether the critical period hypothesis is applicable to second language learning? The results of this study showed that some scholars have provided evidence which apparently supports the existence of a critical period for second language acquisition, while other scholars have provided counter-evidence in this regard. Consequently, it is concluded that critical period hypothesis is one of the empirical problems in SLA.*

Key words: *critical, period, hypothesis, problem, age*

1. Introduction

It is commonly believed that children are more successful than adults in learning a second language (Scovel 2000). This is supported by the critical period hypothesis. Specifically, critical period for second language acquisition refers to a period of time when learning a second language is rather easy and learners can achieve a high degree of success. Besides, after the close of the critical period, it is less likely to achieve native-like ability in the target language (Lenneberg, 1967).

However, the relationship between age and success in second language acquisition (SLA) is controversial. In other words, some scholars have provided evidence which apparently supports the existence of a critical period for second language acquisition, while other scholars have provided counter-evidence in this regard. Due to the importance of this issue, this study attempts to explore whether the critical period hypothesis is applicable to second language learning?

2. Critical Period Hypothesis

The idea of a critical period was first proposed by Penfield and Roberts (1959), who stated that language acquisition is most effective before age 9 ,because "after this period the human brain becomes... stiff and rigid" (p. 236). Later Lenneberg (1967) contended that during this period the plasticity of human brain is high, the brain is lateralized. He claimed that a biological change occurs during puberty which leads to the firm localization of language-processing abilities in the left hemisphere. He also claimed that the language acquisition during the prepubertal period of rapid neurological development is easier than postpubertal language acquisition, and people shroud acquire a language before puberty in order to achieve native-like fluency. However, Krashen (1973) and Whitaker, Bub, and Leventer(1981) challenged the precise age when

lateralization takes place. Lamendella (1977) also proposed the term sensitive period and claimed that although language acquisition may be more effective during early childhood, it is not impossible to acquire a language at later ages.

3. The Role of Age in Second Language Learning

Generally, critical period hypothesis is the hypothesis which emphasizes the effect of age on achievement of native-like proficiency. However, different studies regarding the effect of age on attainment of native-like proficiency produced varied results. For example, Oyama (1978; as cited in Johnson & Newport, 1989) and Patkowski (1980) explored the achievement of certain grammatical structure by immigrants who came to the United States at a variety of ages. The results of both studies showed that the age of an immigrant's arrival was the only factor which determined his or her ultimate achievement in English. Besides, they claimed that learning a second language after the critical period resulted in inadequate mastery of a second language.

Similarly, Johnson and Newport (1989) investigated the relationship between the effects of maturation and the ability of an individual to acquire a second language. For this purpose, they requested forty-six native Chinese and Korean speakers who had arrived to the United States and had been exposed to English between the ages of 3 to 39 to determine the grammaticality of a variety of English sentences. The results of their studies indicated that there was a relationship between the participants' age of arrival in the United States and their performance on a test. Additionally, based on the results of this study Johnson and Newport (1989) stated that attaining a native level of proficiency in a second language after the critical period is impossible.

Contrary to the results of Oyama (1978), Patkowski (1980), and Johnson and Newport's (1989) studies, the findings of Neufeld's (1978) study didn't support the existence of a critical period. Neufeld (1978) studied on 20 adult native speakers of English who were received 18 hours of intensive instruction in the pronunciation of Chinese and Japanese. In this study, the learners were given an imitation test and native speakers of the two languages judged their utterances on a five-point scale (from unmistakably native to heavily accented). The results of this study showed that nine and eight of the learners could achieve native-like Japanese pronunciation and Chinese pronunciation respectively. The findings of this study reveals that under the right conditions adults can achieve native-like proficiency in pronunciation.

Furthermore, Neufeld (1977; 1979) conducted other studies which were in line with his previous study. However, other scholars such as Patkowski (1990) and Long (1990a) criticized his studies. For example, Long (1990a) claimed that the participants of Neufeld's (1978; 1977; 1979) studies were elites. Additionally, in these studies, the data which was produced by the imitation test, was 'rehearsed' rather than natural data. Besides, the instructions which were given to the raters made them think that some of the participants were native speakers.

Additionally, Scovel (1981) requested four groups of participants including adult native speakers, child native speakers, adult non-native speakers, and adult aphasics to rate speech and written samples produced by native and non-native speakers. The results of this study revealed that adult native speakers, aphasic native speakers, advanced non-native speakers, and the child native speakers achieved the accuracy rate of 95 percent, 85 percent, 77 percent, and 73 percent respectively. The result of this study shows that even the most advanced non-native speakers may not have the same the linguistic abilities as native speakers.

Besides, Coppieters (1987) compared the performance of 21 highly proficient speakers of French who had initiated learning as adults, on a grammaticality judgment task with the performance of 20 native speakers. In this study, the two groups were parallel in terms of the mistakes they made, and their choice of lexis, or grammatical constructions. However, the performance of non-native learners on a grammaticality judgment test was significantly different from native speakers, despite the native-like performance of the learners in language production.

On the other hand, Birdsong (1992) replicated the Coppieters'(1987) study and obtained different results. Birdsong (1992) gave a grammaticality judgment test to 20 English-speaking learners of second language French, who had near-native oral proficiency, and to 20 native speakers of French. Additionally, he collected think-aloud data from the participants as they performed their judgments .The results of Birdsong's (1992) study showed that the performance of the non- native speakers and native speakers on a grammaticality judgment test was not significantly different. Similarly, the results of think aloud data analysis revealed that non- native speakers and native speakers were not significantly different. Therefore, the results this study indicates that at least some learners who initiate learning a second language after puberty can achieve native-speaker levels of proficiency.

Additionally, Thompson (1991) conducted a study on foreign accents in Russian immigrants in the United States. The results of this study indicated that those learners who came to the United States before age10 had a more native-like English accent than those who came to the United States after this age. However, one of the important findings of this study is that two learners who came to the United States at the age of 4 had a slight accent. According to Thompson (1991, p.199), this evidence can reveal “a problem for the Critical Period Hypothesis”. Additionally, Thompson (1991) states that these learners failed to achieve native-like English accent because of the first language maintenance. Therefore, some learners may not want to achieve native- like accent and this factor can affect their second language acquisition.

Besides, the results of Cenoz (2003) and Muñoz (2006) indicated that learners who began L2 learning at age 11 showed higher levels of proficiency than those who began L2 learning at age4 or 8. Therefore, the results of different studies regarding the effects of age on achievement of native -like proficiency produced mixed results. It shows that the existence of critical period is one of the ambiguous issues in SLA.

4. The Role of Environment in Second Language Learning

Although the critical period hypothesis highlights the effects of age on achievement of native-like proficiency, other factors such as the environment in which a second language is learned can be very important in this regard. For instance, the results of Champagne-Muzar, Schneiderman, and Bourdages (1993) indicated that the amount of phonological training could affect the pronunciation of a group of university students who were learning French as their second language positively. This result supports Neufeld's (1979) studies. Additionally, Neufeld (1979) showed that adult L2 learners could achieve native-like pronunciation in their L2 after going through a silent period.

Moreover, Riney and Flege (1998) conducted a study on a group of Japanese university students who were at the beginning of their first year in college. The results of their studies revealed that living in an environment where the standard target language was used had a positive effect on adult L2 learners' pronunciation. Similarly, the results of Flege, Frieda, and Nozawa (1997) showed that those people who lived in a foreign country but interacted mostly with their native language speakers had stronger accents compared to those who used their L1 rarely. Therefore, it is concluded that environmental factors have essential roles in second language learning and age is not the only factor which may have effect on achievement of native-like proficiency.

5. The Role of Motivation in Second Language Learning

Motivation is one of the factors which can affect the attainment of native-like proficiency. In this regard, Ioup, Boustagui, Tigi, and Moselle (1994) conducted a study on acquisition process of two English native speakers who attained native-like proficiency in Arabic. These women were married to Arabic native speakers and lived in Egypt; both had a high level of motivation for learning Arabic. The results of this study showed that their speech production, their ability to recognize accents in the L2, and their knowledge of syntactic rules for which they had not received explicit feedback were judged to be native or near-native. As a result, their success in L2 learning was due to their high level of motivation to learn the target language, their exposure to a naturalistic environment, and their conscious attention to grammatical form (Ioup, Boustagui, Tigi, & Moselle, 1994).

Furthermore, Ehrman and Oxford (1995) found that although age might affect the success of adults in L2 reading and speaking, other factors such as cognitive aptitude and beliefs about oneself were more effective than age in this regard. Besides, MacIntyre and Charos (1996) highlighted the importance of variables such as self-efficacy and willingness to communicate in L2 learning. Additionally, Gardner Tremblay and Masgoret (1997) emphasized the important role of over 30 motivational variables (notably language anxiety, motivation, and self-confidence) in L2 proficiency. Therefore, other factors can correlate with success of L2 learning.

6. Conclusion

Critical period hypothesis is a hypothesis which highlights the effect of age on achievement of native like proficiency. Based on the critical period hypothesis, people should acquire a language before puberty in order to achieve native-like fluency (Lenneberg, 1967). However, there are complexities and ambiguities regarding the critical period hypothesis in SLA. While some studies have provided evidence which supports the existence of a critical period for second language acquisition (e.g. Oyama, 1978; Patkowski, 1980; Johnson & Newport, 1989), other studies (e.g., Bialystok, 1997; Birdsong, 1992; White & Genesee, 1996; Birdsong & Molis, 2001; Cenoz (2003); Muñoz (2006) have challenged the acceptance of the critical period hypothesis.

Moreover, one of the criticisms of the critical period hypothesis is that in suitable conditions, some learners who initiate learning after puberty can achieve native-like proficiency (Birdsong, 1992; White and Genesee, 1996; Bongaerts et al., 1997; Birdsong & Molis, 2001) because of different variables such as the environment in which a second language is learned (Champagne-Muzar, Schneiderman, & Bourdages, 1993; Neufeld, 1979; Riney and Flege, 1998; Flege, Frieda, & Nozawa, 1997), motivation (Ioup, Boustagui, Tigi, & Moselle, 1994; Gardner Tremblay & Masgoret, 1997), self-efficacy and willingness to communicate in L2 learning (MacIntyre & Charos, 1996). Besides, in appropriate learning conditions, some learners who initiate learning before puberty may not achieve native-like proficiency because of other factors such as L1 maintenance (Thomson, 1991). In other words, some learners who learn English before puberty, may not achieve native-like accent because they don't want to attain native-like accent. Therefore, as Long (1990) contends, "the easiest way to falsify [claims supporting the existence of a critical period in second language acquisition] would be to produce learners who have demonstrably attained native-like proficiency despite having begun exposure well after the closure of the hypothesized sensitive periods" (p. 274).

Consequently, it is concluded that critical period hypothesis is one of the empirical problems in SLA. Due to the weaknesses in the CPH, Lamendella (1977) proposed the term sensitive period and claimed that although language acquisition may be more effective during early childhood, it is not impossible to acquire a language at later ages.

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