

Key Factors in Children's Second Language Acquisition: Appropriate Age and Suitable Environment

Ruiying Zhao^{1,a,*}

¹English Studies, University of Liverpool, Liverpool, L69 3BX, UK

a. 3117315789@qq.com

**corresponding author*

Abstract: Second language acquisition (SLA) is a key focus for educators and linguists as society becomes increasingly bilingual and multilingual. Mastering one language is no longer enough to meet global demands, prompting research into effective SLA strategies. While much of this research targets adult learners, there is growing recognition of the importance of children's SLA. Understanding the factors that influence children's language learning is crucial for developing effective teaching methods with both theoretical and practical relevance. Although studies on children's SLA are limited, a consensus is emerging that early exposure and immersive environments enhance language acquisition. As economic improvements allow more parents to invest in overseas educational programs, many believe that immersion in a native-speaking environment offers the best language learning outcomes, and starting language learning early is widely accepted as beneficial. In addition to the right age and immersive environment, children's personalities and attitudes affect their learning speed. Extroverted children with positive attitudes tend to acquire language more quickly, while introverted children may progress more slowly. Parents also play a key role in facilitating language learning at home by creating an engaging English-speaking environment through activities like listening to picture book audio or watching English cartoons. For those with resources, sending children abroad before puberty for immersive experiences can provide valuable interaction with native speakers; however, it is recommended to stay for at least six months due to the common "silent period" in language learning.

Keywords: Second language acquisition, children, immersive environment, learning experience.

1. Introduction

In English learning and teaching, the younger children start learning English, the more proficient they will become. This common belief stems from the "critical period hypothesis" in language acquisition, suggesting that children outperform adults in second language acquisition (SLA) due to age-related factors. Consequently, many parents are keen on starting their children's English education early, leading to a proliferation of children's international schools, English training centers, and study abroad programs across the country [1]. Further, studying abroad is often touted as the most effective method for learning a second language (L2). Immersion in a social environment where the second language is spoken provides an unmatched quantity and quality of

language input, which is difficult to replicate in one's home country [2]. Living and learning in a country in which the target language is spoken is widely believed to be crucial for enhancing language skills and understanding the culture. The rationale is that students will receive intensive exposure to the L2, gaining more authentic input than they would through standard language courses at home.

Additionally, the context of studying abroad offers learners numerous opportunities to use the L2 outside the classrooms, interact with native speakers, apply what they have learned, and develop communication strategies in real-life situations. Therefore, it is widely acknowledged among teachers and students that studying abroad is highly beneficial for second language education. This study aims to explore the factors contributing to the development of second language competence among young children. Understanding these factors is significant because it can inform effective teaching methodologies, influence policy decisions regarding early language education, and guide parents in making informed choices about their children's linguistic development. Ultimately, the research seeks to enhance the understanding of SLA in young learners, providing insights that can improve educational outcomes in an increasingly globalized world.

2. Critical Period Hypothesis (CPH)

The concept of the critical period, an interdisciplinary idea, originates not in linguistics but in biology. It describes a time when organic beings are especially responsive to certain external stimuli, with the impact lessening if the stimulus occurs too early or too late. Penfield and Roberts were the pioneers in adapting the critical period hypothesis (CPH) to the realm of language acquisition, which was then formally introduced by Lenneberg in 1967. Once validated through studies on first language acquisition, the hypothesis gained traction within the field of SLA [3]. Essentially, the CPH suggests that there is a specific timeframe during which language learning occurs naturally and effortlessly, after which the process becomes markedly more challenging and potentially unachievable.

It is believed that the critical period of language learning will last until the end of puberty. In 1967, Lenneberg, a professor of psychology at Harvard University, accepted and developed the view of Penfield and Robert, proposing the famous language critical period hypothesis formally. He studies the language acquisition and language ability of children with brain injuries and finds that younger children can acquire their mother tongue after being severely injured by the brain. Only after certain ages, would brain damage cause aphasia, and the ages should be before and after puberty [4]. Thus, he attributes the advantages of children's language acquisition to physiological factors, and believes that language has been the product of the brain and should be bound by biological mechanisms. The functional advantages of the two hemispheres are highlighted; usually, the left hemisphere of the brain is responsible for storing the mother tongue, and the right one mainly deals with the reception of a second language.

From 2 years old to adolescence (10-12 years old), both the left and right hemispheres participate in language learning, which is particularly sensitive to the input of language and mobilizes internal physiological mechanisms more rapidly to realize the natural developments of language acquisition. Before the onset of puberty, the brain develops to become mature and lateralized, and the plasticity of the brain disappears, losing its unique ability to deal with language input [5]. Instead, it is a universal cognitive module, an information processing system, and other brain regions that are in charge of the language learning task, resulting in the efficiency of language learning declining rapidly. From then on, language learning is mainly led by the left brain. Therefore, language learning is best done before the brain completes the lateralization, which is called the "critical period of language learning."

The younger immigrants have been less influenced by the negative transfers of mother tongues in terms of accent. The difference between native speakers is also smaller in language use. This means that immigrants who move between the ages of 1 and 6 achieve the most native-like pronunciation, followed by those aged 7 to 13, while individuals aged 13 to 19 have the least accurate pronunciation. This suggests that a biological factor may influence the precision of a learner's pronunciation [6]. In the early 1970s, a child abuse case occurred in the US. A girl named Genie was imprisoned in a hut for 12 years after she was born for 20 months. When she was 13 years old, she still had no skills in languages at all, and even though some linguists trained her for nearly 7 years, her language skills have been poor, which was attributed to the belief that Genie had missed the critical period of language acquisition, according to Curtiss [7]. The critical period of L2 learning does exist, and learners under the age of 15 can achieve a higher level of syntactical language proficiency than learners who begin to learn the second language after 15. There has been no doubt that age plays a pivotal role in the success of L2 learning from Patkowsky's point of view [8].

In 1990, through experiments, it was found that usually children would not have a foreign accent if they could start to learn a second language before the age of 6. As for children who start learning between 6-12 years old, some have a foreign accent, and some do not. While those learners who start learning after 12 years old are likely to have a foreign accent. Namely, in the field of SL, the ability to attain native-like ability in phonology begins to decline by age 6 in many individuals and to be beyond anyone beginning later than age 12, no matter whether they are motivated or have many opportunities or not [9]. This finding is consistent with that of first language acquisition, for they all confirm the existence of a sensitive period.

A 19-year-old Mexican congenital deaf boy E. M was explored. In terms of learning, they find that after learning the language for 34 months with a hearing aid, the boy cannot solve many problems in speech and cannot master the usage of tense, word order, prepositions, and pronouns. Then, comparing this result with the test score of the boy after using the hearing aid for 8 months, there are no significant differences between them [10]. This suggests that the reason why children with congenital hearing losses have difficulty learning languages after puberty is probably that they have missed a critical period of language acquisition.

Functional magnetic resonance imaging (fMRI) was employed to analyze cerebral cortical activity in bilingual individuals as they made grammatical and semantic judgments, aiming to investigate the relationship between age and proficiency in second language acquisition [11]. The findings indicate that individuals who start learning a second language at a young age exhibit similar brain activity when processing both their native and second languages. As far as the late second language learners are concerned, the brain regions of them processing the L2 grammar instead of mother tongue grammar are more extensive. This confirms the existence of critical periods from a neurological perspective.

3. Learning Instruction and Environment

The importance of teaching methods is a key issue that has been widely discussed in studies of SLA. Formal instruction can significantly benefit learners in developing proficiency in a second language (L2), particularly when combined with chances for natural exposure. The nature of the instruction is deeply intertwined with the learners' environment, which influences the amount of target language input they receive and their access to authentic language usage.

Regarding natural instruction, it generally occurs outside of traditional classroom settings and can happen anytime and anywhere. This concept echoes the natural approach introduced by Krashen and Terrel, which is based on how children acquire their first language [12]. They differentiate between language acquisition, a natural and unconscious process driven by the need to

survive and connect within one's environment, and language learning, which is a more conscious effort typically occurring in a classroom setting for second language learners. According to Krashen and Terrel, acquisition is far more effective than formal learning. Therefore, it is suggested that learning environments for second languages should mimic natural acquisition as closely as possible. Scholars advocate for instructional methods that provide opportunities similar to natural language acquisition. Natural instruction might include interactions with native speakers or everyday activities like shopping, where the focus is on meaning and the language input is comprehensible. In this way, the second language serves as a tool for communication, fulfilling crucial social and interpersonal functions.

The classroom is the main platform for school education. In terms of formal instruction, firstly, it is mainly related to grammar study, and the learners attend the class for the sole purpose of improving their linguistic expertise. Under formal instruction, learners are aware of the rules of the language they learn and can talk about them. In general, the linguistic knowledge the learners are going to learn in class is well designed by educators and instructors, and the instructors use the prescribed syllabus and materials [1]. Regarding the learners who accept formal instruction, they try to output the knowledge they have learned and utilize more complex forms.

Studying abroad is a hybrid language learning context where there is both formal and natural instruction. Since apart from the time the study abroad learners spend in class, they have to use L2 to exchange information out of class. Under such circumstances, they are not only accessible to much quality input but also have more opportunities to practice the rules and skills of L2 attained from the formal instruction in class [13]. Besides the authentic accent and expressions they can get from communication with a homestay family and other native speakers, they can also be embedded in target and cultural situations and traditional festival activities.

Learning context derives several context-sensitive variables, such as L2 input, L2 output, the quantity of L2 contact, the quality of L2 contact, etc. The place where the L2 learning is taking place is the prerequisite for high-quality learners' L2 proficiency. As for those learners sojourning in America for one year or so, their school time determines that they should listen to English, speak English, read, and write totally in English at school. While for those learners at home, even if they attend international and bilingual schools and are taught in 80% English at most, they tend to use their native language after class without the supervision of teachers. In this research, the SA children need to stay at school for at least 6 hours a day [14]. By comparison, their peers studying in domestic primary schools only have English classes 3-5 times a week. Therefore, firstly, the large quantity of L2 contact can be guaranteed in the formal instruction in school abroad, let alone the extra opportunities using L2 outside school. During the process of studying in class, children are in a process consisting of both L2 input and L2 output. In addition, they can get a combination of formal instruction in class and informal instruction out of class. Informal instruction, which is conducted in a natural situation, can help children consolidate what they have learned in class and enhance their ability to listen and speak. While the children who study English under formal instruction at home process L2 input the most, they have little time putting what they have learned into practice. Secondly, the quality of L2 contact differs between students at home and abroad. With respect to learners at home, what they learn is a language, basically including its vocabulary, spelling, grammar, meaning, etc. Although their contact with authentic materials from the target language country increases, it is often sporadic.

Furthermore, AH learners often have little opportunity to hear or read the vocabularies used in various registers, which will discourage them from establishing multiple connections between sensory experiences and then remembering and retaining new words [15]. Nevertheless, SA learners learn the content of varied subjects with English as their tool, and they are exposed to a world construed by English. They can understand the situations in which a word can be appropriately used

and the collocations that often occur with the target word. Additionally, although at-home learners can get access to the formal registers in class like SA learners, they have rare opportunities to contact the vernacular registers, which are available for those SA learners outside the classroom. So, it is normal that what many Chinese students have learned is “mute English,” and even the daily communication with English native speakers is difficult for them after several years’ arduous English learning. This is also why more and more people prefer to send their children abroad to immerse them in an English-speaking environment.

Children have extensive exposure to English culture and customs across domains and social networks, so they can experience an immersive environment. Therefore, it is an undeniable fact that, besides language development, travel activities also help to develop children’s socio-cultural understanding and provide them with the opportunity to learn about another culture through experiential means, thus enhancing their intercultural competence [16]. However, culture is not a crucial factor influencing a child’s SLA. Learning at an early age in an English immersion context benefits the learner badly. Age and context are vital factors in the development of children’s SL. Acquiring an SL before puberty is widely available.

However, the ideal context of SLA is not confined to the target language country. Based on the examples of the English learning of celebrities’ children, learners at a young age can still achieve a native-like level in the English immersion class context, where English is not only the content but the tool of teaching and learning. Language learning is a time-consuming process, and it is never too early to learn a language. From 2 to adolescence (10-12), children’s language learning is in a critical period. In this period, parents, who have the most close contact with children, need to create opportunities for the source of children’s language input. The major function of language is communication [17]. If possible, parents must speak English consistently to their children, even though their pronunciation may not be so good or their grammar may be imperfect. After children gain enough language input, they can naturally try to speak. For those less privileged families, it is unrealistic to send children to a target language community to live for a period of time. They can take advantage of rich network resources, such as the original English videos and audios, to create an immersive language environment for their children. All in all, it is possible for each young SL learner to achieve a native-like level in an immersive SL environment.

4. Conclusion

Although children’s personalities and their attitudes towards learning do play a role in SLA, age and context are the most crucial factors. Indeed, it should be noted that the English learning context is not restricted to an English-speaking country. If prepubescent children, whose SL is English, are exposed to a totally English-immersed environment at home with abundant input from native English speakers or parents who have some foundation of English, along with access to English audios and videos, it is possible for their proficiency in English to reach a native-like level. Besides age and context, other internal variables like gender, personality, attitude, and motivation, as well as some other external factors such as length of stay and culture, are not significant factors that make children outperform their accompanying parents and their AH peers. The advantage lies in younger age making children more likely than their parents to become native-like English speakers, and it is the English immersion environment that makes SA children outscore AH children in most tests and English-related activities. Furthermore, it is also worth mentioning that children’s outgoing personalities and their positive attitudes can also facilitate their SL learning. In the future, the author can delve deeper into children’s second language acquisition from two aspects: parental involvement and support, and longitudinal studies. The role of parents in creating an immersive English environment could be another focal area, investigating strategies that parents can adopt to support their children’s language development, even if they themselves are not fluent speakers. On

the other hand, conducting longitudinal studies may help assess how children's language skills evolve over time as they are exposed to different learning environments. This can aid in identifying key factors that contribute to the continuous improvement of language proficiency.

References

- [1] E. MACARO, "Strategies for Language Learning and for Language Use: Revising the Theoretical Framework," *The Modern Language Journal*, 2006(90.3): 320–337.
- [2] E. Blom, J. Paradis, and T. S. Duncan, "Effects of Input Properties, Vocabulary Size, and L1 on the Development of Third Person Singular-sin Child L2 English," *Language Learning*, 2012(62.3): 965–994.
- [3] Niclas Abrahamsson, "Critical Period Hypothesis (CPH), *Routledge Encyclopedia of Second Language Acquisition*, 2013 (XXvol XXno.): 146–151.
- [4] Vanhove, J. "The critical period hypothesis in second language acquisition: A statistical critique and a reanalysis," *PLoS ONE*, 2013(8.7): e6917.
- [5] Abu-rabia and S. Kehat, "The critical period for second language pronunciation: is there such a thing?" *Educational Psychology*, 2004(24.1): 77–97.
- [6] T. Tuyet, "The myth of 'the earlier the better' in foreign language learning or the optimal age to learn a foreign language," *VNU Journal of Foreign Studies*, (2020)36.1: 22–36.
- [7] Curtiss, S. *Genie: A psycholinguistic study of a modern-day "wild child"*. Academic Press, 1977.
- [8] B. Ozfidan and L. M. Burlbaw, "A Literature-Based Approach on Age Factors in Second Language Acquisition: Children, Adolescents, and Adults," *International Education Studies*, 2019(12,10): 27–36.
- [9] J. S. Johnson and E. L. Newport, "Critical period effects in second language learning: The influence of maturational state on the acquisition of English as a second language," *Cognitive Psychology*, 1989(21.1): 60–99.
- [10] J. M. MEISEL, "Early child second language acquisition: French gender in German children," *Bilingualism: Language and Cognition*, 2016(21.4): 656–673.
- [11] S. G. Mohades, E. Struys, P. Van Schuerbeek, C. Baeken, P. Van De Craen, and R. Luypaert, "Age of second language acquisition affects nonverbal conflict processing in children: an fMRI study," *Brain and Behavior*, 2014(4.5): 626–642.
- [12] S. D. Krashen and T. D. Terrell, *The Natural Approach*. Prentice Hall, 1990.
- [13] C. U. Omego, "Influence of Environment on a Child's Acquisition of English as a Second Language and the Gradual Extinction of Nigerian Languages: A Study of Children of selected schools in Choba, Nigeria," *An International Journal of Arts and Humanities*, 2014(3.3): 146–161.
- [14] S. DEANDA, N. ARIAS-TREJO, D. POULIN-DUBOIS, P. ZESIGER, and M. FRIEND, "Minimal second language exposure, SES, and early word comprehension: New evidence from a direct assessment," *Bilingualism: Language and Cognition*, 2015(19.1): 162–180.
- [15] L. Verhoeven, J. Steenge, M. van Weerdenburg, and H. van Balkom, "Assessment of second language proficiency in bilingual children with specific language impairment: A clinical perspective," *Research in Developmental Disabilities*, 2011(32.5): 1798–1807.
- [16] B. A. Clark, "First- and Second-Language Acquisition in Early Childhood.," *Academic Achievement* 2000.
- [17] T. Sorenson Duncan and J. Paradis, "How does maternal education influence the linguistic environment supporting bilingual language development in child second language learners of English?," *International Journal of Bilingualism*, 2020(24.1): 46–61.