

The impact of Age on Second Language Acquisition

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Abstract

Nowadays English is currently taught in over 118 countries and spoken by about 360 million people worldwide, making it a very beneficial language to learn. English language proficiency is seen in practically every facet of our lives. Your ability to pick up a foreign language quickly and effectively depends on a variety of things. Certain elements, such as your age, gender, or native language, are immutable. Individual differences in second language acquisition have a greater influence on the process of learning a second language, and as a result, their significance has drawn a lot of attention in recent years. The aim of this study is to investigate the relationship between age and second language acquisition by using qualitative method. Language acquisition is influenced by age, which has been found to be a significant factor in both the successful acquisition of first and second languages. The ways that aging may impact the process of learning a second language are explored in this article, which also reviews earlier research on the subject. Additionally, second language pronunciation, grammatical structure, and knowledge are less significant if age has a substantial impact on language learning. Thus, the impact of the input to return ratio increases with the age at which a language is learned.

Key words: Second Language Acquisition-age-second language-learning process-input-ratio

1.Introduction

The timing of a learner's language immersion has a significant impact on the process of language learning. As a result, the age of onset is now a major area of study in linguistics. Within the domain of second language acquisition through immigration studies, scholars have discovered that immigrants who arrive in the destination country as children typically have a higher language level than immigrants who arrive as adults, and that their language level is more akin to native speakers with less strong foreign language accents. Thus, early learners are thought to have incomparable advantages over late learners from the final achievement of second language learning [1].

The academic community has suggested and developed biological ideas in response to the observation that children are clearly superior to adults in the learning of second languages. These theories have led to the proposal of a new linguistic theory known as the critical period hypothesis, or CPH. As research has progressed, scientists have discovered that there are notable distinctions between young learners (or children) during the critical period and between young learners (or adults) following the critical period. Consequently, the "age effect," which has a wider meaning, has taken the place of the "critical period effect" in the pertinent literature [2].

The term "age effect" describes how learners of different acquisition ages in the process of acquiring a second language differ in terms of their academic performance or learning efficiency. Nevertheless, despite the lengthy study period and numerous outcomes, no coherent conclusion has been reached. One of the factors explaining the discrepancy between the findings of a study on the effects of age on second language acquisition is the design methodology of earlier studies,

which differs greatly in the individuals chosen, the scope of the inquiry, and the comparison of time.

This paper introduces the critical period notion and investigations linked to it. Subsequently, pertinent research on the age effect and the crucial period idea is examined in the contexts of second language acquisition and foreign language acquisition. The variations in research techniques applied in these investigations are then examined. In conclusion, three sources are suggested for research design concerning the impact of age on second language acquisition in the Chinese area.

2. Critical period hypothesis

2.1 The concept of critical period in second language acquisition

The critical period is described in the transdisciplinary notion as "a period in the life cycle during which certain types of environmental stimuli are more sensitive than others" [3].

This hypothesis, which has its roots in biology, addresses the phase of human development where environmental factors have the biggest impact. As a result, it can be applied broadly to all facets of behavior in humans and other animals.

Critical periods are frequently employed to examine first- and second-language acquisition in the field of linguistics. The term "critical period" (CP) in linguistics designates a "special period of life development" during which learning happens naturally and quickly without outside guidance or interference. Penfield proposed that children's capacity for learning is biologically linked to brain development, i.e., that the brain's golden age is a crucial stage in language acquisition [4].

A formal idea of the natural language can only exist at an important time, according to Lenenberg, who described a "important period" in the language in his seminal book "The Biological Basis of Language" published in 1967.

2.2 Optimal age hypothesis in critical times Second language hypothesis and theoretical basis

Lenneberg states that before adolescence ends, specifically between the ages of 2 and 12, is the critical time for natural language learning through contact [3].

In addition to having highly malleable brains, children are born with an inbuilt capacity for language acquisition throughout this time. As a result, youngsters may pick up language naturally and without difficulty. The "optimal age hypothesis" holds that there is a maximum age at which a person can learn a second language, according to research.

The brain is still developing and has not yet gained the ability to acquire language, which explains why language acquisition cannot occur until the age of two.

Children find it more difficult to process language after puberty due to the brain's progressive loss of flexibility. Similar to the wolf children that are frequently discussed in research, the loss of language input capacity in the wolf children's brains due to missing out on the crucial phase of language acquisition accounts for their incapacity to acquire language like other individuals. In 1970, a girl named Genie was found in Los Angeles by researchers.

She didn't start learning to speak until she was 12 years old since up until then, she was isolated from all other languages. She started speaking in short phrases at the age of 18, but her vocabulary was limited to idioms and grammar; she did not know how to use auxiliary verbs or pronoun inversion. She is comparable to typical kids in other respects, like behavior and recognition. The process of learning a language demonstrates how some brain processes can only be fully exploited at particular levels. Reaching the native language level will be challenging for anything above the crucial point.

One of the most important factors in learning a second language successfully is the age at which learning takes place. A number of research and these facts have caused some linguists to concentrate on the existence and significance of key phases in the acquisition of second languages. Many people consider the years between the ages of two and puberty to be the best for learning foreign languages.

3. A review on Age Effect of Second Language Acquisition

Research on the effects of learning a second language on age is typically based on two distinct learning contexts: the foreign language environment (e.g., Chinese students learning English in China) and the second language environment (e.g., non-English immigrant children learning English in the United States and bilingual education programs in English-speaking countries).

Early arrivals in the destination country tend to have better language proficiency, according to literature studies in the context of second language learning. The examination of the research demonstrates that pronunciation offers the most benefits [5].

Numerous studies demonstrate the advantages of early practitioners in audiology [6].

Immigrant children have less foreign language accent than adult immigrants and are more similar to native British accents, according to research on the impact of age of onset on the British accent of Italian-British immigrants. Additionally, early vocabulary learners and grammar researchers have discovered important advantages in language output and syntax [7].

For instance, Huang looked at how age affected 118 Chinese immigrants' language output and grammar in the US and discovered a significant correlation between young immigrants' age at schooling and their speaking and grammar skills. Their language productivity and grammar skills surpass those of older immigrants. Even with the same level of education and living standards, younger migrants nonetheless fare better than older migrants [7].

It is possible that some exceptionally talented people will eventually reach second language proficiency on par with first language proficiency, even though early learners are more likely than adults to perform better in second language contexts [8].

The majority of adults, according to literature evaluations, are talkative; also, vocabulary and general language abilities appear to have been well-acquired. Nevertheless, the long-term advantages of acquiring a second language for the majority of early learners cannot be disputed because there are successful adult learners. Early adopters of second languages typically have a more pronounced edge in terms of success down the road.

It's unclear, nevertheless, what advantages early learners in a non-native language setting have over those in a second language one. Research has demonstrated that environments for learning a foreign language and a second language differ significantly:

- 1) Both the volume and quality of language input; Sessions last no more than two to four times a week for fifty minutes each;
- 2) The goals of teaching languages are as follows: the target language is not appropriate for usage outside of the classroom and is not a peer-to-peer communication medium.
- 3) Teachers' language proficiency: The teachers' oral proficiency in the target language may be restricted. Thus, comparable research in the context of foreign languages demonstrates that, given identical educational circumstances, early language learners' language proficiency need not be superior than late language learners'.

According to several studies, for instance, students who acquire English sooner have a better understanding of it later on. For instance, Domínguez & Pessoa discovered that early English learners have greater confidence in their language abilities and a stronger command of speaking, listening, reading, and writing. According to other research, latecomers fare better academically than early comers [9].

For instance, Goikoetxea [10] discovered that late learners communicate more effectively than early learners, while Burstall et al. [11] revealed that late learners were superior to early learners in reading skills. Additionally, other research has not discovered any appreciable variations in the proficiency of early and late learners in foreign language acquisition. For instance, Dwaik & Shehadeh [12] observed no discernible difference between early and late learners in speaking and writing when it came to grammar and listening.

The majority of the aforementioned research, in general, are parallel investigations into the learning outcomes of early and late learners, focusing primarily on the variations in learning outcomes of learners of various ages within a certain age group, a specific time frame. On the other hand, fewer diachronic studies—like Burstall et al.'s—have examined learners' learning outcomes at various moments in time.

More usual is Oller & Nagato [13], [11] . The benefits of early learners in foreign language acquisition are thought to eventually fade with time. As previously stated, there is disagreement on whether learning a second language in a foreign language setting at a young age is preferable and more beneficial.

4. Different Design methods to the Study of Age Effect in Second Language Acquisition

The literature demonstrates that there are a number of explanations for the inconsistent findings of studies on the age effect in second languages, with the primary one being the various study methodologies applied in these investigations. Regarding the kind of research, in order to investigate the impact of age on second language acquisition, linguistic and psychological research approaches such as behavioral and neurological studies, cross-sectional and longitudinal studies, qualitative and quantitative studies, have been widely used. There are significant variations in the subject selection, inquiry substance, and comparison time when it comes to a particular study on the age impact.

4.1 Selection of subjects

The choice of subjects is crucial for every empirical linguistics study since it shapes the methodology and influences the investigation's course and outcome. But there isn't yet a single, agreed-upon standard for choosing participants in studies on the age effect in second language learning.

4.1.1 Second Language Environment Background

When choosing subjects for a second language class, immigrants' offspring or bilingual learners of the target language (such as English) are typically the most common options. Among these, in some of these research, the participants' age upon arrival in the target language country served as a guide for subject grouping.

Subjects were divided into age-based groups in certain additional investigations.

4.1.2 Foreign language environment

When examining the impact of age on second language acquisition, primary and secondary starters are frequently contrasted in the context of second language acquisition [14].

For instance, the NFER Program study conducted in Britain by Burstall [15] and Oller & Nagato [13]; Voller's [16] follow-up study on the FLES program in the United States, which was first published in the literature and frequently cited by subsequent studies.

All of the subjects in these studies are in the same grade, but they varied in terms of when they began studying a second language [14].

4.2 The content of the investigation

Many academics who have studied the age effect in second language acquisition contend that early beginners exhibit better pronunciation and are more likely to acquire an accent like that of a native speaker, which is proof of the age effect [17].

4.3 Time for Comparison

The researcher's subjective will or the needs of the study almost entirely determines the observation time point of the age effect in second language acquisition, which can range from a few hours of class to ten years: after ten recording sessions lasting 15 to 25 minutes, after twelve hours of laboratory training, after eighteen weeks of instruction, at three and eight months and one year, 200 hours and 416 hours later, 396 hours and 564 hours later, second year of junior high school, students at eleven and sixteen, before high school or high school graduation.

5. The Principles and Models of the Study Design of the Age Effect in Second Language Acquisition

The learning environment for foreign language learners varies depending on their age and intelligence level. Many challenges arise in experimental investigations on this issue, and it is challenging to get to meaningful results because there are many different measures and maturity levels.

Various subject selection criteria: There are unavoidably discrepancies between studies on the impact of age on second language acquisition for validation or imitation because of different study subjects and different comparative periods.

It is impossible for a reader to decide whether study's findings are more trustworthy and objective. In order to prevent the drawbacks of earlier study techniques, it is necessary to conduct additional research and enhance the design of age effect study methods. When designing a study on the age effect of teaching a second language (such as English) in a Chinese-speaking environment, the following guidelines might be utilized as a guide.

5.1 Appropriate subject selection criteria and the quantity of subjects with large sample size

This is due to the fact that learning a foreign language in a Chinese context does not have an age limit for entering the target language nation. Because researchers are unable to continuously monitor the subjects' foreign language learning process or control or exclude the number of subjects who have learnt, age of acquisition cannot be utilized as a basis for analyzing the age effect of foreign language learning among Chinese students. Consequently, to determine the starting age for learning a foreign language.

As a criterion for subject selection and grouping, it could be more appropriate, for instance, to estimate the time at which learners start receiving foreign language acquisition. At the same time, a suitably high sample size should be recruited for each initial age group to minimize the limitations associated with studying a small number of patients in prior follow-up studies. Because the subjects in these research are not representative, the results' persuasiveness is called into doubt.

5.2 Unified testing tools and scientific performance evaluation standards

During the literature search, it was discovered that a number of language exams had been added to the evaluation of second language acquisition success. According to the most popular foreign language pronunciation and grammar exams, the graders concluded in certain study designs that the subjects either had a significant foreign accent or native-like pronunciation. In certain research, participants underwent a brief but intense spoken English training session prior to taking the test.

These studies' findings may not accurately represent the subjects' proficiency or level of foreign language pronunciation. Additionally, because exam results could be easily compared, grammatical judgment questions were frequently included.

Nonetheless, other academics, including Kellerman et al. [18], believed that there were numerous issues because it was unclear whether the respondents' grammatical errors were caused by their lack of grammatical understanding or by the influence of pragmatic and semantic elements. The outcome was unclear. As a result, the accomplishment test standard would have an impact on the overall quality of the study as well as the validity and reliability of the findings, in addition to the standards for self-test questions.

5.3 Dynamic and comprehensive examination of the age effect

From a study on the impacts of age on learning a second language, it can be easily found that performance differs at any given moment, even if only the studies by Muñoz and Burstall provided two time points for comparison [11].

In the vast majority of research designs, the total marks of subjects in foreign languages and their marks in other foreign language skills (like speaking, listening, reading, and writing) are not tested simultaneously. It is evident that the evidence supporting an age effect on participants' overall foreign language learning is insufficient to explain variations in pronunciation, reading, writing, grammatical judgment, or cloze test scores amongst groups. Evidently, the discrepancies in pronunciation, reading, writing, and even grammatical judgment or cloze test scores of different subject groups do not support the notion that there is an age effect on the subjects' overall foreign language learning.

6. Conclusion

One of the key concerns in the field of foreign language acquisition is the impact of age on final acquisition performance, and the results of the research that are now available are erratic or even conflicting. However, based on the methodological framework of earlier research, relatively few publications examine the fundamental reasons behind the disparate findings of various investigations. This study initially introduces the critical period hypothesis notion and pertinent studies to solve this issue. The pertinent research on the age effect and the crucial period hypothesis in the contexts of second language acquisition and foreign language acquisition are then examined.

The review demonstrates that there is inconclusive evidence in current research about whether the crucial period hypothesis has a significant impact on second language acquisition and whether early initiators learn more effectively than late initiators. However, prior research has demonstrated a close relationship between second language acquisition and the critical period theory.

The fact that the research methods used in these studies yielded different results—such as subject selection (background in second language environment and background in foreign language environment), investigation content, and time for comparison—is one of the main reasons why the findings of the studies on the age effect of second language on language contradict each other. Therefore, the following three referential guidelines are suggested for the study design of the age

effect of learning a second language (like English) in a Chinese-speaking environment: suitable criteria for selecting subjects and the number of individuals in a big sample size, Unified testing instruments and scientific performance evaluation criteria and Dynamic and complete study of the age effect.

By outlining the fundamental ideas for the investigation of the age effect of foreign language learning in a Chinese-language setting, this paper addresses the optimal model of methodological design for that field of study. It also serves as a resource for future research on this topic. Age effects research is still in its early stages. Regarding content, it has to be investigated at what age learning becomes challenging for the student. Further research is needed to examine the immediate and underlying causes of this difficulty.

Age-related effects on future foreign language acquisition; The classroom setting can be used as a research tool to examine explicit and implicit language learning strategies, as well as the effects of various grammatical structures on second language acquisition. There are even more sophisticated neuropsychological study techniques that can be applied. The quantity and quality of samples require improvement more than anything else. The only approach to improve the study's generalizability and extend pertinent ideas of cognitive psychology and second language acquisition is to do this.

Regarding the effect of age, the two basic conclusions are that adults learn more quickly than children. As a result, students of various ages should get instruction using varied methodologies. Furthermore, second language pronunciation, grammatical structure, and knowledge are less important if age has a substantial impact on language learning. Thus, the impact of the input to return ratio increases with the age at which a language is learned. When educating older students, it's important to call their attention to certain linguistic elements (particularly when teaching adults). In addition, it is important to encourage inductive learning from input learning. In order to get as close to native speakers as possible in their second language, older learners are better at comprehending rather than memorization.

References

- [1]. Scovel, T., *A critical review of the critical period research*. Annual review of applied linguistics, 2000. **20**: p. 213-223.
- [2]. DeKeyser, R.M., *The robustness of critical period effects in second language acquisition*. Studies in second language acquisition, 2000. **22**(4): p. 499-533.
- [3]. Lenneberg, E.H., *The biological foundations of language*. Hospital Practice, 1967. **2**(12): p. 59-67.
- [4]. Penfield, W. and L. Roberts, *Speech and brain mechanisms*. Vol. 62. 2014: Princeton University Press.
- [5]. Selinker, L. and S.M. Gass, *Second language acquisition*. Lawrence Erlbaum Ass, 2008.
- [6]. Flege, J.E., G.H. Yeni-Komshian, and S. Liu, *Age constraints on second-language acquisition*. Journal of memory and language, 1999. **41**(1): p. 78-104.
- [7]. Huang, B.H., *The effects of age on second language grammar and speech production*. Journal of Psycholinguistic Research, 2014. **43**: p. 397-420.
- [8]. Slabakova, R., *Is there a critical period for semantics?* Second Language Research, 2006. **22**(3): p. 302-338.
- [9]. Domínguez, R. and S. Pessoa, *Early versus late start in foreign language education: Documenting achievements*. Foreign Language Annals, 2005. **38**(4): p. 473-480.
- [10]. Goikoetxea Agirre, M.N., *Gaitasun komunikatiboa eta hizkuntzen arteko elkar eragina eae-ko hezkuntza eleanitzean*. 2006, Universidad del País Vasco-Euskal Herriko Unibertsitatea.
- [11]. Burstall, C., *Primary French in the balance*. Educational Research, 1975. **17**(3): p. 193-198.
- [12]. Dwaik, R. and A. Shehadeh, *The Starting Age and Ultimate Attainment of English Learning in the Palestinian Context*. English Language Teaching, 2015. **8**(10): p. 91-99.
- [13]. Oller, J.W. and N. Nagato, *The long-term effect of FLES: An experiment*. The Modern Language Journal, 1974. **58**(1/2): p. 15-19.
- [14]. Singleton, D., *Critical period or general age*. Age and the acquisition of English as a foreign language. Clevedon, 2003: p. 3-22.

- [15]. Burstall, C., *Factors affecting foreign-language learning: A consideration of some recent research findings*. Language Teaching, 1975. **8**(1): p. 5-25.
- [16]. Vollmer, J.H., *Evaluation of the Effect of Foreign Language Study in the Elementary School Upon Achievement in the High School. Final Report*. 1962.
- [17]. Tong, X., L. Yu, and S.H. Deacon, *A Meta-Analysis of the Relation Between Syntactic Skills and Reading Comprehension: A Cross-Linguistic and Developmental Investigation*. Review of Educational Research, 2024: p. 00346543241228185.
- [18]. Kellerman, E., *Age before beauty: Johnson and Newport revisited*. The current state of interlanguage, 1995: p. 219-231.