Success in Second Language Learning:
Exploring the Effect of Age, Aptitude and Motivation on Language Acquisition

B.A. Essay

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Abstract

Researchers in second language acquisition have proposed a critical period in language learning for individuals from early age until puberty and argue that if language attainment does not occur within this period it will not be successful. The innateness theory which suggests a critical period for children between age 2 – 6 in learning their first language has also been applied to second language learning. This has been controversial and there is no consensus among scholars. The terms sensitive period or multiple critical periods have also been suggested. Some extreme cases involving deprivation of linguistic attainment in the first years of individuals’ lives either support or question the Critical Period Hypothesis. However, studies have not produced convincing evidence demonstrating early learners having an advantage in second language learning. Investigating aptitude has indicated its significance in language learning and research has shown its importance in order to gain success in acquiring nativelikeness in a second language. The linguistic environment and the learner’s circumstances are important factors and have to be taken into consideration when age effects on language learning are evaluated. Integrative motivation has been examined as well as the learner’s orientation, which have been important in studies on second language acquisition. The psychology of language learning has been studied in connection with various aspects of motivation focusing on the personality. The learners’ self and identity is significant in research when examining what motivates them to achieve language proficiency. This paper studies motivation and aptitude in acquiring a second language and explores how those factors potentially predict more significantly success in L2 attainment than acquisition of the L2 within a critical period.
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1 Introduction

In an influential book, Biological Foundations of Language (1967), Eric Lenneberg discussed late exposure to language and its effect on learning a first language. His book emphasizes biological constraints, particularly when it comes to phonology and his work has profoundly influenced Second Language Acquisition (SLA) research (Moyer 2004). The reasons for late learners of a second language showing non-native performance were due to the existence of a critical period. The neuro-logical bases for the critical period could be related to "electro-chemical changes in the brain" (Moyer 2004, p. 17) according to Lenneberg and many of these changes become steady at around the age of 10-12. When this steady state is reached by early puberty, language acquisition becomes less successful because the brain is not as flexible. Lenneberg argues for the necessity of exposure to language in order to initiate the development of neurological language processes (as cited in Dellbrugge 2008, p. 6) and for first language acquisition to be successful the learner needs to be older than age 2 and not yet reached puberty.

The Critical Period Hypothesis (CPH) has been a widely discussed topic in second language learning studies and the debate on whether it applies to learning a second language acquisition has been going on among academics as well as in the non-academic world (Kinsella & Singleton 2014, p. 441). Psycholinguists generally accept that there exists a critical period for L1 acquisition but extending that claim to L2 learning has been controversial (Marinova-Todd et al., 2000, p. 9). It has also been commonly thought that language attainment on a native level beginning later than at the onset of puberty according to the traditional interpretation of CPH is impossible. Because of that the term ‘sensitive period’ has been applied by some researchers where the CPH has been revised and looked at more closely. The terms ‘multiple critical periods’ and ‘one sensitive period’ have also been proposed relating to variation in maturational constraints and sensitivity within these periods.

Does research support the theory that second language acquisition becomes more difficult after puberty, and are those late learners typically less successful in reaching native-like levels of competence in language? Emphasis in research in SLA has been on the age of onset, (AO), meaning when learners, for example immigrants are exposed to substantial amount of input of the target language. Another crucial variable has been the learner’s length of residence (LOR) referring to the time spent immersed in the second language context.
However, other factors than age have shown to have a stronger relationship with successful L2 acquisition.

Aptitude tests have in the past been used to measure ability in language learning by instruction rather than focusing on language attainment in a naturalistic environment. However, Krashen (1981) maintained that “aptitude is irrelevant to language acquisition” (as cited in Hyltenstam & Abrahamsson 2008, p. 486) since natural language development occurs implicitly and unconsciously rather than by an explicit process. Hyltenstam and Abrahamsson point to recent studies by DeKeyser from 2000 and Harley & Hart in 2002, which claim that aptitude may play a more significant role in a naturalistic setting than in a formal setting for adult learners because they will face a more challenging task of acquiring language implicitly only through exposure rather than learning grammar and pronunciation from the instructions of a teacher. Recent studies have demonstrated aptitude to be of significance in obtaining high levels of second language skills and shown aptitude as being necessary, specifically for adult learners to reach nativelike ability in everyday speech. These studies show that aptitude can possibly outweigh the disadvantage of being an adult learner. The relationship between L1 and L2 in bilingual studies has been examined with respect to the impediment accounts. The impediment accounts suggest that L1 is the major impediment for nativelikeness in L2 and proficiency in one language will affect the ability in the other. Studies have though come up with contrastive results displaying a positive relationship between L1 and L2.

Circumstances and environment are different for learners and opportunities for obtaining skills in language vary. The learners’ orientation toward the language community and their motivation to learn have been shown to be important in obtaining skillful performance in the L2. Motivational studies have looked at identity and the self as basis in explaining achievement in SLA. Dörnyei’s Motivational Self System and The Big Five Model have been constructed to explain in greater detail personality traits and dimensions. Researchers have aimed at seeing the learner as a whole person and each individual as unique in pursuing a goal in enhancing language skills. Relevance has been explored in relation to the learner’s interest and experience outside the classroom.

The aim of this thesis is to demonstrate the significance of motivation and aptitude in high level attainment of second language acquisition and show how the individual’s orientation and the circumstances in the learning environment also play a crucial role in L2
success. Research shows that those factors are possibly more important for the learner’s success than being exposed to the new language within the critical period.

I begin by presenting ideas and studies concerning age in L2 learning in chapter two followed by addressing theories pertaining to aptitude and its significance in chapter three. Motivation and orientation is the topic in chapter four with focus on individuality and the self. Finally in the conclusion I will discuss what factors contribute mostly to success in L2 acquisition.
2 Age in Second Language Acquisition

Eric Lenneberg states that a crucial difference between “the human brain and that of any other vertebrate is the appearance of hemispheric dominance or language specialization” (Lenneberg 1967, p. 66). A behavioral function which is localized somewhat clearly in one of the two hemispheres is only found in man. Lenneberg argues that cases of language disorders provide convincing evidence that suggest an age limitation concerning language acquisition. The CPH has been supported mainly by two arguments. One is the analyses of children’s recovery from aphasia and the second is based on studies on feral children who have been deprived of human contact and linguistic input and thousands of studies on L1, L2 and sign language.

The results of investigations on aphasia indicate puberty as the end of the critical period. According to Lenneberg “chances for recovery from acquired aphasia are very different for children than for adult patients“ (Krashen, 1975 p. 211), “the prognosis being directly related to the age at which insult to the brain is incurred“ (Lenneberg 1967, p. 142). Children have without exception recovered fully from aphasia and language has returned to them if they are not older than nine years and if the injury is confined to a single hemisphere. Adults may recover fairly rapidly but if that does not happen within three to five months then some symptoms will not go away. This suggests a difference between adults and children in relearning their first language. Lenneberg claims that the reason for the difference between adults and children in language acquisition has its basis in neurology. Children can learn their first language naturally and master it because “the cerebral dominance is not yet complete“ (Krashen 1975, p. 219). The first sign of dominance of either hemisphere occurs when the child is two years of age according to Lenneberg and is complete at around puberty. “This interhemispheric plasticity has been associated with the plasticity necessary to learn a second language“ (Krashen 1975, p. 219). Lenneberg maintains that the limiting factors of the critical period relating to language are “cerebral immaturity on the one end and termination of a state of organizational plasticity linked with lateralization of function at the other end“ (Lenneberg 1967, p. 176).

Krashen reinvestigated the data presented by Lenneberg who had based his examination on cases of unilateral brain lesions causing language impairment. Krashen came to the conclusion that lateralization was established at five which meant that the data was consistent with the stronger hypothesis. More cases were studied and the results supported the
lateralization-by-five hypothesis. Cases of aphasia caused by damage to the left hemisphere of the brain in adults showed the same percentage as in cases of children over five years old and also there were no evidence that clearly supported the hypothesis of the minor hemisphere completely taking over the language function after five. Extreme cases of children being deprived of language input exist and provide an intriguing insight into how that affects the acquisition of a first language.

2.1 Cases Studied in Relation to the CPH

Carl Linné came up with the term ‘homo ferus‘ in 1758 to refer to individuals who had grown up in isolation in the wilderness away from human society, possibly with animals. Today these “wild” circumstances relate to abnormal and extreme cases when children are deprived of human contact. They grow up in isolation and are not able to obtain language naturally. The anthropologist Robert Zingg translated this term into ‘feral man’ in 1940 in his report of “extreme cases of isolation“. Such cases are very rare but when children who have gone through such extreme conditions are discovered, they have been examined with respect to the theory of the CPH. Eric Lenneberg did not cite these cases in his book because he thought that “the nature of the social and physical environment is never clear and the possibility of genetic deficiencies or congenital abnormalities can never be ruled out“ (Lenneberg 1967, p. 141). In spite of that, linguists have found these set of circumstances to be important and considered them valuable as an insight into the topic.

Two cases have been examined which lend support to the CPH. First, there is Victor, a child discovered in Aveyron, France in 1797 thought to about 11 years old. He seemed to have been living in the wild, he did not speak but made the sounds of faint cries and laughter. Scholars soon took interest in him and the first one to examine him was Abbé Pierre-Joseph Bonnaterre, who was a professor of natural history. Jean Itard, a young physician attempted to teach him to speak and he believed the ability to learn language still existed and only needed to be triggered. Eventually Victor learned a number of nouns, verbs and adjectives which he was able to use accurately in small sentences and he made these sentences by way of printed cards and metal letters. Victor also learned the basics of writing but trying to teach him to speak failed.

A more modern case is about Genie born in 1957 who was kept in isolation indoors by her father in a little room with closed curtains. When Genie was discovered in 1970, her condition was severely impaired in many ways, physically she suffered from malnutrition,
unable to speak and not showing any emotion. Her father was sure that her daughter was mentally retarded when she was 20 months old and tied her to a chair; abused her physically and never talked to her. When she was 13 years and 7 months old she faced the task of learning a first language usually acquired by the age of 5. Genie’s language skills were at the same level as that of children at the age of two-and-half, though her vocabulary was richer and she used numbers and colour words that very young children usually acquire later. This examination showed that her cognitive development was faster than her linguistic development. She was able to comprehend most of the basic English structures but that did not go hand in hand with her speech production. In phonology her learning was not successful since she was unable to control her vocal organs as a result of learning to “suppress the production of sounds instead of learning the necessary neuromuscular control“ (Dellbrugge 2008, p. 12).

It can be said that the cases of Victor and Genie support the theory of CPH because they never developed the ability to speak at a satisfactory level. However, the strong interpretation of the CPH maintaining that a person is unable to achieve language at all after puberty can be said to be doubtful since Genie acquired some skills in speech.

Other two cases cast doubt on the CPH. Isabelle, born in april 1932, was a child of a mother who was deaf and mute and both of them were kept in a dark room and the only person Isabelle had contact with was her mother, using gestures to communicate. In November 1938 she had an “orthopaedic surgery and physiotherapy“ (Dellbrugge 2008, p. 13), at a children’s hospital. She took psychological and linguistic tests, failed to show any linguistic abilities and was thought to have the mental capacity of a three year-old. Her speech therapist’s method to teach her was by “the use of gesture, facial expression, pantomime, dramatization and imitation“ (Dellbrugge 2008, p. 13). She continued to improve, after one year of training she could write well and by the time she was eight she was thought to have normal intelligence. Isabelle received very good speech training in a socially rich environment which helped her to develop language attainment in only 22 months which normally takes 6 years.

The case of the Czech twins also involves success in gaining language ability inspite of deprivation for the first 6 years of life. The boys who were born in September 1960 were taken care of in a children’s home until they were 11 months old because their mother had died soon after they were born. They developed normally both mentally and physically at the
children's home and for another six months with a maternal aunt but their condition began to deteriorate when brought back to their father who had married for the second time. The stepmother treated them with indifference at first and later with "active hostility" (Dellbrugge 2008, p. 14). Despite living under those conditions until they were taken from the family in December 1967, they were able to reach normal ability in speech. They were adopted by two middle-aged sisters and also received professional speech training and psychological care. In the sixth class, they had reached a linguistic level comparable with their peers.

The age difference between the cases of successful language attainment and the other two where the children only reached linguistic ability to a low degree is obvious and is probably a deciding factor. However, the strong interpretation of the CPH does not seem to hold water since the Czech twins and Isabelle acquired language in the end at a normal level despite being above the age of five. The theory of a Sensitive Period fits more appropriately to these cases. The Sensitive Period is a term which began to be used by scholars after inquiring carefully into the CPH and can be said to be a revision of Lenneberg's CPH in order to explain in more detail the effect on L2 acquisition (E. Mabila, 2014). In 1977 Lamendella preferred one 'sensitive period', viewed as more flexible than the critical period. It is seen as a period of increased sensitivity in the learning process which develops into a decreased sensitivity. Seliger (1978) suggested "multiple critical periods" (as cited in E. Mabila, 2014, p. 1341) underlying children's ultimate attainment of L2 as adults. This idea assumes that there are differences in maturational constraints which exert influence on different linguistic skills such as morpho-syntactic, phonological and semantic skills. Knudsen (2004) has argued for two different types of periods with regard to language development, a 'sensitive period' refers to any time period when the neural connections inside the brain are especially susceptible to environmental input and this increased sensitivity of the brain towards a special type of stimulus can strongly influence learning with long lasting effects. The term "critical period" is a particular "case of sensitive periods when the brain must receive certain stimulation or input in order to continue to function normally" (as cited in Dörnyei 2009, p. 237).

We see from these examples that learning a first language will not be successful if the individuals have reached puberty at the time of first exposure, but how does the theory of a critical period apply to acquiring an additional language?
2.2 Age Related Studies and the Learning Environment

The differences of opinion in age-related SLA research do not come as a surprise. Different learner characteristics and environmental factors, maturation and general cognitive development along with motivation and acculturational influences are all considerations for the researchers. Because of the complexity of the age issue, explanations do not come easily. The settings are different for L2 learners, in some circumstances language input can be easily available in others not at all abundant.

When children emigrate to another country and are exposed to a lot of linguistic input in a naturalistic environment, many examples show that children are more successful in learning a new language. Studies by Genesee in 1987 and Cenoz in 2003 have on the other hand shown that in a school setting with limited contact outside the classroom the younger learners “typically do far worse than their teenage counterparts” (Dörnyei 2009, p. 236). The situation of the adult learners can be very different from that of the children and be mostly limited to communication with their own ethnolinguistic group. At the workplace there might be few or no native speakers so learning conditions are far from favourable for adults. This suggests that circumstances for the learner in the environment is crucial for a high degree of success in L2 attainment and more important than age. Assumptions concerning age and learning will be discussed in the next section.

2.3 Assumptions Regarding Age and Learning

In an article published in 2000 called “Three Misconceptions About Age and L2 Learning” Stefka H. Marinova-Todd, D. Bradford Marshall and Catherine E. Snow discuss how researchers have often supported their claims by unconvincing arguments for a critical period in L2. The authors of this article argue that extreme cases of people being deprived of linguistic input in L1, resulting in limited learning for them, are different from the reasons which impede achievement among L2 learners. Older learners have the potential to reach high levels of language attainment and an introduction of foreign languages to very young children should not be based on age and biological readiness, instead the focus should be on what factors typically propel advancement in knowledge and skill in an L2 for each individual. The authors argue that ultimate attainment of an L2 by children has been misinterpreted by many as showing how children learn quickly and easily. The opposite has often been shown to be the case, for example in French immersion programs for English speakers in Canada in 1987 according to Genesee. Evaluations of those programs led to the conclusion that children who
began learning a second language in grade 7 or 8 performed as well or better than children who began in grade 1 and the older students seemed to be more efficient learners. This is a good example of how differences in language attainment can be insignificant when circumstances and chances for learning are the same for the children rendering the facts of how old you are when exposed to the target language of little value.

Another assumption made by researchers involves misemphasis on adult learners who have demonstrated poor performance in L2. In fact there are a number of late learners who only reach low levels of proficiency and on average they are less successful than younger learners. By largely ignoring the group of adult high level achievers in L2, the picture of the late learners becomes distorted and untrue. Studies have shown that early learners show similar skills in L2 whereas late learner's capacity varies greatly and the explanation for this variance cannot be based solely on age. In fact, in formal settings late learners have seemed to be better than younger learners.

Two studies in Spain have supported the view that older learners do better in a formal learning environment. For instance, three groups of Basque students studying English were investigated by Cenoz in 2003. The groups consisted of learners in the fifth year of secondary school, the second year of secondary school and fifth year of primary school. The study concluded that the oldest group achieved the highest level of skill after having been exposed to 600 hours of instruction like the other groups. The students attending second year of secondary school showed the next best results followed by the youngest group. Another study by Munoz in 2006 came up with very similar results. Catalan learners of English with various age of acquisition were examined three times, all of them were first tested after 200 hours of instruction, then after 416 hours and finally 726 hours. The findings indicated that the older learners were faster than the younger ones in obtaining language skills. The study also concluded that even after longer periods of time, the younger learners did not perform better than the older learners. Earlier studies made in natural settings that produced evidence indicating the importance of age in L2 learning have been reevaluated, for instance one conducted by Johnson and Newport in 1989.

The study by Johnson and Newport mentioned above focused on ultimate attainment based on the age of arrival in the country of the target language. They examined learners' ability to judge at a native speaker's level, whether certain sentences or items were grammatical or ungrammatical (Moyer, 2004). The research concluded that there was a steady
decline in this ability from the age of 7 until 17. After learners reached 17 years of age there seemed to be no relationship between age and performance and this research has been viewed as proof of the vitality of age of onset in learning a second language. A reexamination of this study was made by Bialystok and Hakuta (1994) where age-related effects were found for only “some of the structures examined” (as cited in Marinova-Todd, 2000, p. 14). A closer look revealed that where these effects occurred they concerned structures which are considered very different in the languages studied, that is, in English and Chinese/Korean. Further data from this reinvestigation showed a deterioration in the participants’ proficiency only after 20 years of age, a number of years after puberty. In a research on late learners in a naturalistic setting, that is on learners who have been immersed in a new language environment for a number of years, early age was shown to be insignificant to accomplish a positive outcome.

David Birdsong (1992) conducted a research where learners of French who took part in the study were all above 19 years of age at AO but nevertheless showed impressive attainment in judging grammaticality tasks. Those who took part in the study were English native speakers with an average age of 40 years. Their ability was compared with the proficiency of French native speakers who were on average 35-40 years old. In this research “Ultimate Attainment In Second Language Acquisition” Birdsong presents evidence which refute the claim of postpubertal learners being unable to achieve competence within a native level in second language acquisition and delivers counter arguments to this generalization. In the study he asks whether there are differences between native speakers and non-native speakers who are classified as near-native speakers with very high competence in a second language.

The findings showed that there was a significant difference in 17 of 76 items tested which is only a 22% difference overall in ability of judging grammaticality tasks between native speakers (NS) and non-native speakers (NNS). The results of the study indicate that other factors must have a greater affect on learning than age in order to explain the participants‘ success in language attainment. The late learners who reached high levels in L2 attainment demonstrated in the study that this performance can be achieved with a desire and ambition to pursue advancement in language skills. The findings can be interpreted as a criticism of the assumption that the ability to learn languages is somehow biologically determined, assuming that there exists some hindrance of language attainment after the learner reaches adulthood.
Findings from examinations on early learners reveal that they greatly vary in terms of L2 attainment and orientation.

2.4 Young Learners

At a young age different orientation is apparent among early learners suggesting its importance for future L2 acquisition, potentially rendering age of less value as a factor explaining the outcome of ultimate attainment. Alene Moyer discusses cases of language learners who have performed exceptionally well in phonological attainment in an article published in 2014. L2 learners who are described as “exceptional” refers to those who defy the Critical Period Hypothesis. Moyer seeks answers on grounds that are psychological and cognitive as well as based on sociolinguistic approach where the whole person is under scrutiny. She demonstrates how people differ in terms of motivation and aptitude when it comes to acquisition of L2 attainment in phonology. People’s identity is important in relation to phonological skill, motivation and attitude varies among learners, some are passionate to identify themselves with the natives in the target language country for several reasons, others might not want to blend in and be indistinguishable from native speakers and desire to hold on to their nativeness, not wishing to obtain native-like proficiency in phonology. As an example of this Moyer recalls a study conducted by her in 2004 where two Turkish men who both arrived in Germany at the age of 4 were participants. According to the Critical Period Hypothesis those men, Ahmet and Korech should have sounded like natives but only Ahmet did since their orientation was quite different, Ahmet showing an enthusiasm in socializing and obtaining a native level in speech while Korech identified with his Turkish origin, not speaking German at home and avoiding contact with German culture.

As I have discussed in the sections above, environment and circumstances predict strongly the outcome of learners’ L2 attainment. Studies have shown that children perform better than adults in naturalistic settings where input is readily available, nevertheless findings from research have also shown that adolescents and adults have reached high levels of achievement in language proficiency, although the adult learners are fewer than the young ones. My main thesis suggests that other factors besides age possibly have a stronger relationship with successful language acquisition than age. This view does not exclude a sensitive or a critical period in language learning where children are more susceptible to language input in a naturalistic setting, but argues that other factors can predict more strongly for successful L2 achievement and that age does not pose a hindrance to L2 high level skills
for some adults. Research shows that the range of language capacity in L2 is very different when comparing older and younger learners. The range is much wider among adult learners suggesting that other factors have more influence on the L2 performance than age. One of those factors is orientation and researchers have found different orientations among very young learners which shows that even very early in life age is not the only factor contributing to high levels of L2 attainment.

2.5 Summary

Children's achievement in L2 has been interpreted as showing their ability to learn with less effort than adults, nevertheless studies reveal late learners outperforming younger ones in formal settings. However, in naturalistic settings where input is readily available for all, children have shown to be better performers in L2. Successful adult learners have been disregarded and instead the emphasis has been on adult learners who perform poorly. A reevaluation of a study displaying the importance of age of onset showed age effects occurring only partially in the linguistic structures examined, moreover, where they occurred they were not confined to the critical period. An investigation on adult learners' achievement in L2 has concluded that a considerable number of participants scored within the range of native speakers' performance indicating that other factors besides age are crucial in L2 attainment. Early learners differ significantly in terms of orientation as well as showing variability in linguistic attainment.

Aptitude and cognition play a different role in the acquisition and development of an L1 versus an L2.
3 Aptitude and Cognitive Abilities

Cognitive and psycholinguistic studies on SLA look at the development of knowledge which is built from purposeful and continuous practice. Bialystok (1994) claims that “first and second language acquisition differ in the extent to which they are under the control of biological or cognitive processes of development” (as cited in Moyer 2004, p. 29). First language is acquired by a set of constraints which are biologically or innately prescribed. Second language acquisition on the other hand relies more on aptitude and cognitive factors in older children and adults as an influence on its development. However, in order to master both the first language and the second language they both rely on cognition, control and analyses which propel language proficiency. Elliott (1995) has presented an exception to this rule and has concluded that there exists a significant relationship “between pronunciation accuracy and cognitive style” (as cited in Moyer 2004, p. 34), when working with highly analytical individuals. These findings show that certain cognitive styles and instructional input are important for phonological acquisition. Ideas on how aptitude relates to language learning have been put forward by several scholars (Selinker 1972; Bley-Vroman 1989).

3.1 Theories Pertaining to Aptitude in Language Learning

Bley-Vroman’s (1989) fundamental difference hypothesis claims that children acquire language implicitly through specific-domain processes but adults no longer possess this ability and therefore rely on problem-solving mechanisms in learning a second language. Since this cognition is not especially designed for language acquisition almost no adult learner should ever fully master a second language. Those few learners who reach a native-like level in language attainment must then have a special talent or language learning aptitude. They possess exceptional verbal analytical skill making them apt to acquire correct grammar and morphology. In 1972, Selinker proposed a different view. He proposed that in rare cases adults do not lose the innate ability to acquire language but are capable of acquiring language implicitly. Adults who reach native-speaker level “have somehow reactivated the latent language structure which Lenneberg describes” (Hyltenstam & Abrahamsson 2008, p. 487).

A large number of studies in naturalistic settings have shown language aptitude to be significant to second language acquisition and given new life to research in this area. Advances have been made in understanding how languages are learned, supported by progress in cognitive and educational psychology and “measurement and conceptualization of
aptitude“ (Granena 2014, p. 484). Tests on aptitude were originally created in the late 1950s and have been steadily developed since then.

### 3.2 Significance of Aptitude

The study of aptitude in language learning began in 1959 with the development of the Modern Language Aptitude Test (MLAT; Carroll & Sapon, 1959). Other aptitude tests have followed and greatly built on the original test’s foundation, for instance the Pimsleur Language Aptitude Battery in 1966, the Defense Language Aptitude Battery in 1976 (DLAB; Peterson & Al-Haik, 1976) and CANAL-F (Grigorenko, Sternberg, & Ehrman, 2000).

The first research on an interaction between age and aptitude is commonly thought to be by Harley and Hart in 1997. This study was conducted in Canada with participants learning English through immersion, that is only the language being taught was used. The study showed significant positive correlations between memory and L2 results in early immersion learners and between analytical ability and L2 results in late immersion learners. This study is often cited as showing evidence of an interaction between age and aptitude but since the early and late learners were presented with different types of instruction (memory-based and language analyses) the results could be interpreted instead as showing interaction between aptitude and instructional method (Granena 2014, p. 484). However in recent years, studies on aptitude have focused more on research in natural settings rather than in instructional ones.

In a study conducted by Abrahamsson and Hyltenstam (2008) they investigated whether aptitude played a significant role among early L2 learners who had immigrated to Sweden at the age of 11 or younger and late L2 learners who had arrived in the country at the age of 13 or older. The mean length of residence was 25.6 years among the early learners and 22.6 years for the other group. All of the participants were people with Spanish as their L1 who were considered to be native Swedish speakers in everyday speech. The language test included many different measures of pronunciation, “speech perception, grammatical intuition, grammatical and semantic inferencing, and formulaic language“ (Hyltenstam & Abrahamsson 2008, p. 492). The language aptitude tests comprised 5 subtests for measuring various aspects of language learning aptitude which is a version of the Swansea LAT. It tested “phonetic memory (LAT A), lexical-morphological analytical skills (LAT B), grammatical inferencing skills (LAT C), aural memory for unfamiliar sound sequences (LAT D), and the ability to form sound-symbol associations (LAT E)“ (Hyltenstam & Abrahamsson 2008, p. 493). The results were intriguing
because they demonstrated significance of aptitude in all age groups, but mostly among older learners.

What is interesting about this study is the fact that among the early learners who were tested they found small yet significant effects of aptitude. The results suggested that language aptitude was a significantly advantageous condition for children to attain a level of proficiency identical to a native speaker. It was clear from the testing that the late learners who scored high on the aptitude test also excelled in the language test. The findings concluded that language aptitude is necessary for the adolescent or adult learners to pass for a native speaker in everyday communication but not sufficient to reach natiivelikeness when measured by demanding tests or a design consisting of miltiple tests. Their findings also suggested that verbal analytical skills play a minor role in children's second language acquisition since language aptitude seemed to have small but significant effects among early learners. Hyltenstam and Abrahamsson interpreted the results from their examination qualifying as convincing evidence of the robustness of aptitude effects in second language learning, specifically in adult learners' near-native ultimate attainment. In their opinion a rejection of the CPH is not justifiable although a few adult learners have demonstrated natiivelike abilities. Future research might explain why certain individuals attain this level, by perhaps using special psychological processes or possibly by continued access to the innate and implicit learning ability that somehow might escape maturational effects. They claim that by narrowing the scope of examination, overinterpretations of exceptional outcomes among L2 learners will be prevented.

When native speakers and near-native speakers are compared there must be a limit to how similar those two groups can be in language proficiency. In an extremely close examination you probably will always find a minute difference with today's available methods in research on language skills and a certain limitation must be expected when investigating the closeness of these groups in language production and ability. However, the conclusions of this study support my suggestion of the aptitude factor potentially contributing more importantly than age to L2 success because the findings indicate that adult learners who possess high levels of aptitude according to the tests are likely to attain linguistic competence at a high degree. The study suggests that those adult learners are indistinguishable from native speakers in ordinary speech and the strength of aptitude can overcome age effects on language acquisition.
Bilingual studies have been conducted with the aim of exploring the relationship between L1 and L2 and finding out whether aptitude affects the proficiency in both languages.

3.3 Relationship Between L1 and L2 Proficiency with Aptitude as a Factor

In recent years there seems to have been a shift in focus from studies on age effects based on biological factors in SLA towards claims which emphasize the learner's L1 as an element that hinders L2 nativelikeness. Two of these claims, referred to as impediment accounts, are the competition model (CM; Hernandez, Li&MacWhinney, 2005; MacWhinney, 1997, 2005) and the speech learning model (SLM; Flege, 1995, 1997). The competition model discusses “competition, resonance, entrenchment, and parasitism“ (Abrahamsson et al., p. 218). Competition refers to when a simultaneously bilingual child experiences competition between lexical items for the same referent. For a person who is not a simultaneous bilingual the situation is quite different. L1 representations are entrenched for the L2 learner and the acquisition of L2 forms occurs as word associations which are dependant on L1 forms. Consequently the L2 forms will always have an association with the L1 no matter how strong they will become. The speech learning model is another impediment account which conceptualizes the L1 as an element of interference and relates to phonology. The SLM proposes that for a bilingual speaker, “L1 and L2 phonetic categories may mutually influence each other“ (Abrahamsson et al., p. 219). How strong the influence of the L1 is on L2 pronunciation depends on the L1's strength of representation of its categories. In 2012 a study was conducted to test the accuracy of these impediment accounts and explore the relationship of L1 and L2 proficiency in bilinguals.

In a research by Abrahamsson et al., (2012) they suggest that first language maintenance does not hamper nativelikeness in a second language. The authors oppose the view of the proponents of the impediment account(s). These accounts which are “a competing set of recent constructs“ (Abrahamsson, et al., p. 216) claim that it is not the loss of neural plasticity which makes L2 proficiency more difficult but rather L1 entrenchment, meaning that increased proficiency in L1 makes successful attainment of L2 more arduous. In order to test the correctness of what the impediment accounts predict, the necessity of assessing empirically both L1 and L2 skills has been pointed out by Long in 1993. Yet these considerations have rarely been met to date. The aim of the research by Abrahamsson et al. is to supply the evidence which have been lacking by assessing both L1 and L2 proficiency. The research questions of the study are “what is the relationship between L1 and L2
proficiency and what factors predict nativelikeness in both, one, or neither language(s)" (Abrahamsson et al., p. 223).

The participants of the study by Abrahamsson et al., (2012) were thirty L1 Spanish - L2 Swedish bilinguals who resided in Sweden. Their age of acquisition ranged from 1-11 years and the mean was 6 years. The mean length of residence was 23.7 years and the range 10-41 years. The authors state that three possible outcomes of the study could be expected. First that there exists no relationship between L1 and L2 nativelike proficiency, that is, neither negative nor positive, secondly that there exists a negative relationship, meaning that if a person is nativelike in one language that same individual is nonnativelike in the other. Thirdly that there is a positive relationship, if a speaker is proficient and nativelike in one language the same is likely to be the case for the other one. Another aim of the study was to examine the possible influence of three factors in contributing to nativelike proficiency attainment of an early bilingual speaker: Age of onset of L2 Acquisition, amount of L1 use and language aptitude. The bilinguals came from various countries in Latin America but especially from Chile and the tests were comprised of grammaticality judgement tests and semantic and grammatical inferencing.

The research concluded that a “positive relationship was found between L1 and L2 nativelike proficiency“ (Abrahamsson et al., p. 231) and also the findings implied that nativelike performance was “intimately connected to language aptitude“ (231). Those findings present evidence against impedance accounts and demonstrate that a low level of L1 skills are neither necessary nor are they of benefit for L2 nativelike attainment. These results showed, for the first time, aptitude effects on bilingual ultimate attainment. Aptitude was the only factor under careful examination that “could predict nativelike proficiency in both languages“ for older speakers (Abrahamsson et al., p. 233).

This study emphasizes the significance of aptitude for successful L2 learning as well as for obtaining a high level of capacity in L1 for the bilinguals. Rather than searching for explanations which demonstrate a limit on how successful the language learner can be by looking at factors which impedes attainment, this study focuses on the learners’ potential for improving language skills, showing the strength and importance of aptitude in obtaining higher skill level in proficiency. We see that the findings are interpreted as showing nativelike skills closely related to aptitude, suggesting it to be a crucial factor explaining favourable outcome in L2 attainment.
3.4 Aptitude, Main Points

The influence of aptitude on acquiring a second language has been debated among scholars. Some researchers claim that L2 is acquired similarly to L1 by using the same natural processes, however others argue that L2 relies more on cognition and aptitude in order to gain success. A study on late learners demonstrated the robustness of aptitude and showed its significance in obtaining native-like performance in everyday communication, however it was not considered sufficient to reach nativelikeness when measured by difficult tests. The study also concluded that aptitude effects on children’s SLA were small but nevertheless gave an important advantage to reach a level of attainment identical to a native speaker. In another research on bilingual ultimate attainment, a positive relationship between L1 and L2 nativelike proficiency was found and nativelike ability was considered to be closely related to language aptitude.

Aptitude combined with motivation in language acquisition will pave the way for proficiency in L2 acquisition. Motivation in learning a second language has been examined extensively for more than half a century and theories and ideas have been constructed applying to different contexts and circumstances in the learning environment.
4 Language in Context, Motivation and Orientation

Interaction with native speakers and the quantity and quality of input of L2 plays a large role in attaining a second language. In terms of learning a first language versus acquiring ability in a second language, obviously there are major differences involved. Learning strategies and access to instruction and feedback for example are incomparable. Children learning their first language receive appraisal despite inaccurate utterances and have more time for listening and learning before speaking. Adults learning a second language are exposed to a more complex language and can feel inadequate and embarrassed when they fail to be accurate in their speech. This feeling of frustration could affect motivation for the language acquisition in a negative way. Theories and ideas have been proposed for the purpose of explaining language success by exploring real learning situations and to gain a better understanding of L2 motivation. Focus has been on individuality and psychological aspects of the language learning process.

4.1 The Cognitive-Situated Period

The 1990s were characterized by “work drawing on cognitive theories in educational psychology” (Dörnyei 2005, p. 66) and this period has been referred to as the cognitive-situated period. This period is often thought to have started with an influential article published by Graham Crookes and Richard Schmidt in 1991 named “reopening the motivation research agenda”, (Dörnyei 2005, p. 74) but in fact other researchers had expressed similar opinions (such as Brown, 1990; Julkunen, 1989; Skehan, 1989, 1991). This period was distinguished by two main trends of influence. One involved a desire to deepen our understanding of L2 motivation by bringing in a number of influential concepts of the 1980s. Almost all of these concepts were cognitive in essence and showed the effect of this era’s cognitive revolution in psychology. The psychologists thought that the language learners’ view of their own abilities, limitations, potentials and past performance was a significant aspect of motivation. The second trend concerned a desire to take a closer look and analyze real learning situations. By investigating the mind of the language learner and receiving more detailed information about what drives and motivates each person to become highly skilled as well as realizing what the learners might think of as being an obstacle in language attainment is important for a greater comprehension of the learning environment. This has produced a theory pertaining to Self-determination which has been one of the most influential approaches in motivational psychology. This theory looks at different types of
intrinsic and extrinsic motives in order to explain second language motivation. Douglas Brown (1990, 1994) was one of the first scholars to propose how important intrinsic motivation is in the L2 classroom. He discussed how much emphasis was put on extrinsic motivation in the schools where monetary gain was the main focus instead of stimulating creativity and the enjoyment of "some of the more basic drives for knowledge and exploration" (as cited in Dörnyei 2005, p. 76).

Motivational research in the 1990s focused on its "dynamic character and temporal variation" (Dörnyei 2005, p. 83). According to Dörnyei ideas regarding motivation needed a broader perspective and a focus on the self and individuality. Zoltán Dörnyei has presented a new conceptualization of L2 motivation where the concept is devised in a new way "in relation to a theory of self and identity" (Dörnyei 2005, p. 93). He believes that languages are different from other academic subjects because they form an important part of the person's identity and are significantly involved in the individual's mental activity. Motivation should then be approached with a whole-person perspective within the theoretical framework.

One aspect of Motivation, an integrative motive has been explored in some detail by researchers. A Canadian research team (Noels et al. 2000) concluded that although a longing for contact and emotional association with L2 speakers, that is integrative orientation, was originally suggested to be crucial for L2 acquisition it would now seem to be only relevant in particular sociocultural contexts rather than of central importance to the motivational process. Those researchers proposed four learning goals or orientations: knowledge, friendship, travel and instrumental orientation. Success in second language attainment from the social psychologist's point of view does not merely derive from the learner's intellectual capacity but also from their perception of the other ethnolinguistic group, their attitudes toward it and the willingness to embrace various characteristics of that community. An integrative and a positive outlook toward the other group can make the learner more sensitive to accent and pronunciation whereas a learner who does not have this friendly mood toward the community and might even be hostile and ethnocentric, will not acquire pronunciation of a native-like level.

I have proposed in my thesis that motivational factors will possibly influence success in L2 attainment more so than age. The purpose of the theories and ideas discussed above is to explore motivation independently on an individual as well as social level irrespective of the learner's age. By looking closely at the identity of each person, many factors will surface
which influence L2 attainment. Motivational research brings to light the complexity and
dynamism of L2 learning which age alone will not do. It will further explain the intentions of
the learners and their orientation in detail which will not be revealed when looking only at the
age factor in L2 research.

Personality traits and the learner’s self have been the object of study in recent decades.
Systems and models have been constructed with focus on the individual’s identity in order to
understand better the mind of the language learner.

4.2 Individuality and the Self

A significant progress has been made in personality psychology that has helped to
better understand individual differences and their structural basis in language learning.
Advances have been made in mapping personality dimensions according to the Big Five
Model. Research that plans “to apply personality factors as independent, background variables
requires a fairly straightforward and parsimonious system” (Dörnyei, 2005, p. 14) that still
preserves a large proportion of the variance. The five main constituent parts of the Big Five
construct are Openness to experience: high scorers for example are imaginative, flexible,
creative, low scorers are conservative, conventional, unartistic. Conscientiousness: high
scorers are systematic, meticulous, hard-working, low scorers are unreliable, careless, lazy.
Extraversion and introversion: high scorers are sociable, active, talkative, low scorers are
passive, withdrawn, restrained. Agreeableness: high scorers are friendly, forgiving, modest,
generous, low scorers are cold, cynical, unpleasant, vengeful. Neuroticism-emotional
stability: high scorers are worrying, insecure, unstable and low scorers are calm, relaxed, even
tempered (Dörnyei 2005). These adjectives mentioned above are a few of the ones which have
been selected because they are most often cited “in the various descriptions of the Big Five
model” (Dörnyei 2005, p. 15).

These studies of individual differences have focused attention on the self, on personal
behaviour and what action is taken by the person. Since the 1980s there has been much
interest in the self-system that places the self at the center of motivation and action, “creating
an intriguing interface between personality and motivational psychology” (Dörnyei 2005, p.
98). Notions have been put forward of Possible Selves and Ideal Selves in the domain of SLA.
Possible selves represent future states involving what the individual might become, would like
to become or what he or she is afraid of becoming. So possible selves that are wished for
might be more success or creative activity whereas the negative possible selves could for
example include incompetence, loneliness and unemployment. Markus and Nurius pointed out in 1986 that possible selves just as the here-and-now self are a reality in the minds of the individuals and are closely connected to visions. A certain concept has been introduced by Higgins in 1987, as a type of the possible self, and that is the ideal self, representing a wish and aspiration to gain an attribute or skill, striving for an ultimate aim of endeavour. The ought to self is also an idea from Higgins where the learners are motivated by duty and responsibility in possessing attributes which are not related to wishes or desires. Higgins has proposed a self-discrepancy theory claiming that individuals are motivated to decrease the discrepancy between their actual self and ideal or ought self.

Dörnyei’s L2 Motivational Self System proposes that there are three fundamental sources of the motivation for learning an L2: (a) The Ideal Self or the learner’s internal longing to become an effective L2 user, (b) The Ought-to Self or the pressures from the learner’s social environment to become skillful in the L2, (c) The L2 Learning Experience or the actual experience of being involved in the L2 learning process (Dörnyei, 2013). One aspect of the L2 Motivational Self System that plays a key role is imagery. It has been the center of attention in many different areas of L2 learning over the past few decades for example in grammar teaching and listening comprehension. Zoltan Dörnyei and Letty Chan (2013) conducted a research and examined the claim that intensity of motivation is in part “dependent on the learners’ capability to generate mental imagery” (Dörnyei 2013, p. 439). In the study the focus was on 13-15 year old Chinese background learners of English and Mandarin and on how images and senses shape the motivation to learn a second language by promoting a sharper mental representation of the learner’s self in future states. They formed three hypotheses. The first one suggested that both the ideal and the ought-to L2 selves would be “positively associated with the two criterion measures, intended effort and course grades” (Dörnyei, 2013, p. 444), for both languages, Mandarin and English. The second one assumed that the future self-guides would be positively correlated with variables related to visualization and auditory style. Thirdly, since the relationship of imagery with motivation supposedly concerns the very basis of vision, this relationship will be L2-independent, meaning that it will not be affected by the nature of the target language in question.

They sought to shed light on the relationship among learner characteristics in connection with “sensory and imagery aspects”, indications “of the strength of the learners’ future self guides” (439) and learning accomplishment. All participants were Chinese and their first language was Cantonese and the sample consisted of 172 Year 8 students in Hong
Kong. They were studying both Mandarin and English in a Band 1 secondary school at a lower intermediate level. Both languages evidently had relevance and were ethnolinguistically essential for the learners within the Hong Kong learning context. A self-report questionnaire was the instrument used in this study with focus on English “ranging from strongly disagree (1) to strongly agree (2)” (Dörnyei 2013, p. 446). The questionnaire consisted of four main variable groups: 1. Motivation: ideal L2 self and ought-to self, 2. Sensory styles: visual learning style. 3. Imagery capacity, meaning the competence in creating visual imagery in the learner’s mind. 4. Criterion measures: self-report of intended learning effort and actual grades achieved in exams at the end of term.

The findings obtained in the study identified “significant positive associations between desired language self-guides” and the learner’s L2-related learning effort and achievement” especially with regard to the ideal L2 self (Dörnyei, 2013, p. 457). The study focused on mental imagery and the future self guides evidently were associated with salient imagery and visualization elements, which supports a justification of using the term “vision” when referring to them. It was also concluded that this vision does not only pertain to visualization but to all the senses. An important distinguishing trait of the imagery skills involved was how language independent they were, drawing a conclusion that mental imagery is part of a more generally working mechanisms underlying human vision instead of being a function of specific languages. However, the results confirmed that different languages relate to distinct language selves, therefore creating distinct L2-specific visions.

Given the positive affect of the participants’ vision and self-guides on their L2 achievement it is reasonable to assume that motivation is a decisive factor contributing to success in a second language irrespective of age. This examination involves different views and choices of learners giving a more detailed explanation of their purpose in the learning process which demonstrates individual differences among learners who are at a similar age but show a variety of intentions in terms of goals being pursued in the future.

One part of Dörnyei’s Motivational Self System, the Learning Experience has been explored more deeply by other scholars in connection with activities of the students outside the classroom.
4.3 Linking Motivation and Relevance in Language Learning

Relevance in second language acquisition has been examined by Anna Jeeves as a contribution of a new dimension to "existing models of motivation" (Jeeves 2013, p. 85). The relevance factor, she states, has not been investigated before in the environment of motivation and individual differences in L2 attainment. Her dissertation focuses on Icelandic secondary school learners' perception of studying English at school and how it affects their study motivation. According to Dörnyei the third aspect of his L2 Motivational Self System, referred to as the Learning Experience has not yet been expressed in greater detail and consolidated. Relevance may influence the students’ experience of the classroom by linking language studies to their matters of interest and activities outside the school. A definition of relevance as an idea in linguistic pragmatics has been put forward by Gorayska and Lindsay (1993). They argue that it “is goal-related and individual” and “must be seen in the context of how” (as cited in Jeeves 2013 p. 88). What is relevant to one individual may not be relevant to another which is clearly related to the notion of individual differences, of seeing the person as a unique and a whole being.

In her study Anna Jeeves “concentrates on the learners themselves and their experience of the learning situation” (Jeeves 2013, p. 75). She discusses three features of the language classroom that are important in her view: identity, autonomy and proficiency. Identity and autonomy are evidently linked to the teacher’s impact and the learner’s position within the peer group. Demands of proficiency obviously affect the experience of failure or success.

Motivation and relevance must be linked, assignments will be seen as relevant if they lead to a goal wanting to be pursued by the learner. When the learners perceive the task being relevant to their own situation they will become more motivated to accomplish it successfully. The significance of relevance in language learning is that it brings about the possibility of change and it can be affected both by learners and teachers. When language serves as the medium to gain knowledge and understanding of something which the learner passionately seeks and finds desirable, the acquisition becomes easier and more enjoyable. In that way language relates to the learners’ interests which become the prime motivator in improving linguistic skills. Investigating impact of maturational factors in comparison with motivational intensity have shown the latter to carry a lot of weight.
4.4 Motivation and Late Learners

In a research by Kinsella and Singleton made in France in 2014, 20 participants, all categorized as late learners of French from an English-speaking country, were questioned and narrative data obtained from them regarding their attitudes and motivation before arriving in France. “The subjects in the study had acquired French to a very high degree of proficiency“ (Kinsella & Singleton, p. 447). The participants' mean age of arrival was 28.6 years, the range was 22-60 years, and their mean age when tested was 41.1 years. One research question was whether age of onset, which refers to the beginning of massive exposure of the L2, would correlate in an inverse manner with levels of attainment. Another question asked was whether biological factors such as intention to dwell permanently in the L2 country, that is in France, “would be statistically linked with levels of attainment“ (Kinsella & Singleton p. 444). All of those learners were said to pass as native speakers of French and their tasks involved identifying three regional French accents as well as a lexico-grammatical measure (Kinsella & Singleton 2014, p. 441). In order to answer the first research question, a “correlational analysis was run between age of onset“ (447) and the results of the accent recognitions, and between AO and the lexico grammatical test results. In neither case were the results found to be significant. To answer the second research question and decide if certain experiential or biological factors would be statistically linked to levels of attainment, “correlations were calculated between the test results and quantifiable variables from the questionnaire/semi structured interview“ (448). Special attention was paid to results related to three of the participants who were the most successful. Those three participants performed at a native level on all the tests and the reason for their high scores were several variables which had greater impact on their proficiency than maturational factors. The highest correlating variables in the accent recognition task were intention to reside in France and length of residence, showing significant correlation. The highest correlating variables in the lexico-grammatical test were self-rating of spoken French and frequency of spoken interaction also demonstrating significant correlation. The three participants with the highest scores were all socially active and felt themselves as being valued within the French community. All were married to natives and they had shown ambition in reaching native ability and also took pride in their linguistic skills.

In the study motivational factors seem to outweigh age affects on language learning ability, an integrative motivation and the learner's desire to identify with the French community is apparently crucial in successful attainment of the French language.
4.5 Overview

In the cognitive-situated period studies on motivation have focused on the learner's self and identity. Studies have aimed at seeking learners' views on their performance, potentials and limitations by looking at real learning situations. The Big Five Model has been constructed for a better understanding of the underlying structure of individual differences by exploring learners' personality dimensions and characteristics. The self has been the object of study as the center of motivation and ideas have been put forward of possible selves and ideal selves. Scholars have suggested that possible selves represent a reality in the individual's mind and are intimately related to visions. The results of a research examining the claim that motivational intensity relies on the individual's ability to create mental imagery suggested that a significant positive connection existed between the learners' desired L2 self-guides and the actual accomplishment of the L2 learning, specifically regarding the ideal L2 self. A study has shown that relevance may positively affect the learners' experience of the classroom by connecting language studies to their matters of interest and activities outside school. A study on late learners of French showed age effects to be less important than motivational factors which seemed to contribute most significantly to success in L2 attainment.
5 Conclusion

There is no consensus among scholars that a critical period exists in acquiring a second language. Rare cases of children being deprived of linguistic input have been examined with regard to the Critical Period Hypothesis and they show that first language attainment will not be successful if acquisition does not occur before puberty although some linguistic abilities can be obtained. Extending the claim of a critical period to a second language has been controversial and in interpreting results some researchers have supported their arguments by unconvincing reasoning, rendering their conclusions questionable. Adults who have achieved high levels of L2 attainment have largely been ignored and children’s accomplishments have been interpreted as showing how easily they acquire a second language, however studies show that adult learners exceed younger learners on performance tests in formal learning environments. Circumstances in the learning environment vary and those factors have to be considered when language proficiency is evaluated. A reexamination of findings indicating the significance of age of onset in L2 demonstrated that age effects were found only in certain linguistic structures and they were not confined to the critical period, in fact much later than at the onset of puberty indicating that maturational effects were not as significant on L2 attainment. In a naturalistic environment where input is equally available, children have shown to be better at acquiring a second language, however, studies on late learners’ achievements in second language acquisition have demonstrated their ability to obtain native-like levels despite having reached adulthood which indicates that other factors than age possibly influence more strongly high level achievement in L2 attainment. Researchers have concluded that young learners crucially vary in terms of orientation suggesting a different outcome of L2 attainment in phonology, demonstrating that other factors besides age influence L2 development early in life.

Scholars have disagreed on how significantly aptitude affects second language acquisition. One claim regards the acquisition of language to be comparable to acquiring a first language in a natural process while the other suggests that L2 is more dependent on aptitude and cognition for successful attainment. Studies on late learners have shown the strength of aptitude and demonstrated its importance in achieving native-like ability as observed in ordinary communication, although it was not observed to be satisfactory in obtaining nativelikeness when measured by demanding tests. Researchers have examined the influence of aptitude on children’s SLA and found small effects, however they were significantly beneficial to obtain skills indistinguishable from native speakers. In another
study on bilingual ultimate attainment the researchers argued against the impediment accounts. The study concluded that a positive relationship existed between L1 and L2 ability and that nativelike proficiency was intimately related to language aptitude.

Research on motivation in the cognitive-situated period has explored aspects of the learners' self and identity with the purpose of looking for their views on past performance, limitations and potentials. Real learning situations have been looked at more carefully and analyzed. Constructing the Big Five Model has contributed to a better understanding of the structural basis of individual differences by examining learners' personality traits and qualities. Studies on individual differences have focused on the self as the center of motivation. Ideas about the possible self, the ought self and the ideal self have been proposed and researchers have maintained that possible selves are a reality in the mind of the individual and are closely related to visions. A recent research examined whether intensity of motivation depended on the ability of the learner to produce mental imagery. The results attained in the study found significant positive associations between the participants' desired self-guides and the eventual achievement of the L2 learning, especially regarding the ideal L2-self. The research emphasizes the importance of vision for learners, of seeing their desired level of language proficiency realized. A study has shown that motivation and relevance are linked, when assignments are related to the students' interests and activities outside school they become more motivated to accomplish them. A research on late learners of French revealed motivational factors to be seemingly more important than age affects in L2 attainment. In second language ultimate attainment the individual's age is possibly of less importance, rather it depends significantly on the learners' motivation, aptitude and orientation and is determined by the circumstances of the linguistic environment in the new language community.
List of terms

1. (2L1) Simultaneous bilinguals.
2. (AOA) Age of Acquisition. The age at which learners are immersed in the L2 context, typically as immigrants.
3. (AOE) Age of first exposure. This is used in formal schooling environment, visits to the L2 country, extended contact with relatives who are L2 speakers etc.
5. (CM) Competition Model.
7. (L1) First Language.
8. (L2) Second Language.
9. (LOR) Length of Residence. The amount of time spent immersed in the L2 context.
10. Motivation. Impetus to initiate L2 learning and the driving force to sustain it.
11. (NS) Native speaker.
12. (NNS) Non-native speaker.
13. Orientation. Learners’ attitude, inclination and feeling towards the L2.
15. (SLM) Speech Learning Model.
References


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