

## UNDERSTANDING THE DIFFERENCES IN SECOND LANGUAGE ACQUISITION PROCESSES ON CHILDREN AND ADULTS

Sujono

STKIP PGRI Nganjuk

e-mail: [\\*john.bril@gmail.com](mailto:*john.bril@gmail.com)

### Abstract

Second language acquisition (SLA) is the process of learning another language after the native language has been learned. The children in SLA is divided in to two categories children under seven and children between 7-12. What is called adult here is people above 12 years old. In SLA children and adult differ in three categories: psychology, social context, and other psychological variables. On psychological factor children are high on induction, memory, motor skill, and low in explication. While on the social context, children are high in natural context but low in classroom context. On the other hand, adults are high on induction, explication, and classroom situation. But they low or medium in memory, motor skill, and in natural context. In some other factor children is best at ESL (English as Second Language) situation and adult best at EFL (English as Foreign Language) situation. In SLA the adult is high in motivation and attitude while the children are the converse.

**Kata Kunci:** SLA, explication, induction, memory, motor skills, social situation

### Introduction

SLA refers to the process of learning another language after the native language has been learned. Sometimes the term refers to the learning of a third or fourth language. The important aspect is that SLA refers to the learning of a nonnative language after the learning of the native language. The second language is commonly referred to as the L2. As with the phrase “second language,” L2 can refer to any language learned after learning the L1, regardless of whether it is the second, third, fourth, or fifth language. By this term, we mean both the acquisition of a second language in a classroom situation, as well as in more “natural” exposure situations.

There is also sometimes a need to distinguish among the concepts first language, native language, primary language, and mother tongue, although these are usually treated as a roughly synonymous set of terms (generalized as L1 to oppose the set generalized as L2). The distinctions are not always clear-cut. For purposes of SLA concerns, the important features that all shades of L1’s share are that they are assumed to be languages which are acquired during early childhood – normally beginning before the age of about three years – and that they are learned as part of growing up among people who speak them. Acquisition of more than one language during early childhood is called simultaneous multilingualism, to be distinguished from sequential multilingualism, or learning additional languages after L1 has already been established. (‘Multilingualism’ as used here includes bilingualism.) Simultaneous multilingualism results in more than one “native” language for an individual, though it is undoubtedly much less common

than sequential multilingualism. It appears that there are significant differences between the processes and/or results of language acquisition by young children and by older learners.

There is a widely-held lay belief that younger L2 learners generally do better than older learners. This is supported by the critical period hypothesis, according to which there is a fixed span of years during which language learning can take place naturally and effortlessly, and after which it is not possible to be completely successful. Penfield and Roberts (1959), for example, argued that the optimum period for language acquisition falls within the first ten years of life, when the brain retains its plasticity. Initially, this period was equated with the period taken for lateralization of the language function to the left side of the brain to be completed. Work on children and adults who had experienced brain injuries or operations indicated that damage to the left hemisphere caused few speech disorders and was rapidly repaired in the case of children but not adults (Lenneberg 1967). Although subsequent work (for example, Krashen 1973; Whitaker, Bub, and Ieventer 1981) has challenged the precise age when lateralization takes place, resulting in doubts about the neurological basis of the critical period hypothesis, the age question has continued to attract the attention of researchers.

In their review of the research that has addressed the age issue, Krashen, Long, and Scarcella (1979) conclude that (1) adults are superior to children in rate of acquisition, and (2) older children learn more rapidly than younger children. The study most often cited in support of these conclusions is Snow and Hoefnagel -Hohle (1978). This study investigated the naturalistic acquisition of Dutch by eight- to ten-year-old English-speaking children, twelve- to fifteen-year-old adolescents, and adults over a ten-month period. The learners' proficiency was measured on three separate occasions (after three months, six months, and at the end of the study). With regard to morphology and syntax the adolescents did best, followed by the adults, with the children last. However, there were only small differences in pronunciation, and the grammar differences diminished over time as the children began to catch up.

Experimental studies have also shown that adults outperform children in the short term. For example, Olsen and Samuels (1973) found that American English-speaking adolescents and adults performed significantly better than children after ten 15-25-minute German pronunciation sessions. However, other studies suggest that, at least where pronunciation is concerned, adults do not always progress more rapidly than children. Cochrane (1980), for example, investigated the ability of 54 Japanese children and 24 adults to discriminate English /i/ and /I/. The average length of naturalistic exposure was calculated as 245 hours for the adults and 193 for the children (i.e. relatively little). The children outperformed the adults, although in a follow-up experiment in which the two groups were taught the phonemic distinction, the adults benefited while the children did not. The research gives general support to Krashen, Long and Scarcella's generalization that adults learn faster than children. It appears to be more applicable to grammar

than pronunciation (where children seem to learn as rapidly, if not more rapidly, than adults), although in the case of formal learning situations adults seem to do better even in this area of learning. It is not yet clear at what point children start to catch up.

In this study the differences between children and adults in second language acquisition will be discussed in three factors. They are psychological, social and other psychological variables.

## **Discussion**

### **A. Psychological**

#### **1. Intellectual processing**

Essentially, there are only two ways to learn the syntax of a second language: someone can explain them to you, explication, or you can figure them out for yourself, induction.

##### **a. Explication**

Explication is the process whereby the rules and structures of a second language are explained to a learner. Explication is also known as explicit learning that is the learning of information in a conscious and often effortful manner. This explanation is given in the first language of the learner. The learner is then expected to understand, learn, and apply the rule in the second language. The explanation is usually not given in the target (second) language because the learner may not know enough of that language. Only with learners who are very well advanced could an explanation be attempted in the target language.

While parts of a second language can be learned by explication, it is impossible for it to be learned entirely by explication. This is because not all of the rules of any one language have been discovered and written down. One cannot go to a bookstore and buy a book or any number of books which come close to completely explaining the grammar of any language. Even for a language such as English, the most researched of all languages, one still finds linguistic journals discussing the concepts involved in such common place features of English as tense and the article.

Explication is rarely applicable to Young children. Explaining is rarely done by parents or others when children acquire a native language, yet children by the age of 4 or 5 can understand and speak most of their native language quite well. They have learned language by self-analysis, induction.

The explication is best applied to adult. The adult cognitive development play an important role in explaining why older learners in a formal foreign language situation are faster and more efficient than younger learners, especially in tests in which the morpho-syntactic component is important. The older learners' superior

cognitive development also allows them to take greater advantage of explicit teaching processes in the class.

b. Induction.

Induction is the process of learning rules by self-discovery or self-analysis. Induction is also known as implicit learning that is input processing without such an intention, taking place unconsciously or learning without awareness of what is being learned (Hulstijn 2005).

The child who is exposed to second-language speech and remembers what he or she has heard will be able to analyze and discover the generalizations or rule that underlies that speech. Actually, not only must the learner devise the rule based on the speech that has been heard, but he or she must also figure out how those rules are to be applied in other cases. Young learners seem to favor and to be favored by implicit learning. Implicit learning improves with practice but occurs slowly and requires massive amounts of exposure.

2. Memory

Memory is crucial to learning. It is inconceivable that a person with a severe memory impairment could ever learn his or her native language, much less a second language. The greater the number of related occurrences needed for learning, the poorer is the person's memory. Second-Language learners and teachers are forever talking of practice and review, the reason that practice and review is necessary at all is because of some lack in memory ability.

The memory ability of very young children seems to be unparalleled in that they can absorb a phenomenal amount of data. Many parents tell of the experience of reading a lengthy familiar bedtime story to their young child and, when the parent began nodding off to sleep, being sharply corrected by the child as to exactly which words had been skipped. Knowledge about memory increases between the ages of 4 and 12. Children younger than 8 do not have a well-developed sense of self and an ability to self-evaluate (Harter 1998). The ability to evaluate one's performance particularly increases after the age of 11 or 12 but self-esteem generally decreases until mid-teens and this may have an effect on self-reporting (Muñoz 2007). There is a strong relationship between children's growing memory capacities, i.e. how much they can remember, and their metamemory capacities, i.e. how much they know about their own memory functions. This relationship appears especially strong in children 10 years of age or older. For example, Schneider (2004) reported that there are important correlations between metamemory, memory behavior and

memory performance. Children who can reflect on and explain why a memory strategy works show better recall (Justice et al. 1997).

Memory seems to begin its sharpest decline around the age of puberty. Undoubtedly this is due to some change in the brain (Lenneberg, 1967). Typically, second-language learning becomes more difficult for the 15- or 20-year-old. However older learners are advantaged by greater learning capacity, including better memory for vocabulary. Greater analytic ability might also be an advantage for older learners, at least in the short run, since they are able to understand and apply explicit grammatical rules.

### 3. Motor skills

Good pronunciation is clearly an important part of learning a foreign language. The better our pronunciation, the better we can communicate with others. The creation of speech sounds is related to the ability to control the muscles which manipulate the organs of speech. Motor Skills is a term which psychologists use to describe the use of muscles in performing certain skills, from generations like walking to fine ones like writing and speech. The Motor Skills which are involved in speech utilize what linguists call the articulators of speech. These include the mouth, lips, tongue, vocal cords, etc., all of which are controlled by muscles which are under the general control of the brain. The articulators of speech have to do the right thing at the right time (open the mouth in a certain way, position the lips and tongue in a certain way, etc.), if one is to utter sounds accurately.

We all recognize that to be able to attain a high level of proficiency in a motor skill, generally, one should start young. But why? Because somewhere around the age of 12 years, the ability to acquire new motor skills begins to decline. Beyond the age of 15 years, for most people, things become very difficult indeed.

The reason for this decline in the fine control of the muscles of the body is as yet unknown, although, since the decline is of such a general nature, involving all parts of the body, it seems likely to be due to some change in central functioning in the brain. Hormonal changes prior to puberty may have something to do with this but this is only speculation on our part.

Around the age of 12 years or so, there is a general change throughout our body that affects all of our motor skills. Most persons experience a decline. As we age and as our ability to acquire new motor skills declines, our ability to command our articulators of speech is negatively affected. Consequently, we can expect that children will do much better in the pronunciation of a second language than adults because children have the flexibility in motor skills which adults generally have lost.

B. Social situation,

There are many social situations in which a second language is learned. Basically, we can cover the most important of them according to two categories, the natural and the classroom

a. Natural Situation

The natural situation in which a second language is learned is one which is similar to that in which the first language is learned. It can involve social situations such as that of family, play, or the workplace

A natural situation for second-language learning is one where the second language is experienced in a situation that is similar to that in which the native language is learned, that is, language is experienced in conjunction with the objects, situations, and events of everyday life. The paradigm case would be that of a young child going to live in another country and learning that country's language, not by any explicit teaching, but by interacting with playmates. For example, an English-speaking 5-year-old girl from New York goes to Tokyo with her parents, through playing with Japanese children,

she soon learns Japanese. In fact, she learns the language in less than a year, which is not uncommon for children this age, and her speech is indistinguishable from that of native speakers. She is soon translating for her parents when they go shopping or speaking for them on the telephone.

But what is truly amazing here is that the child has learned the second language faster than she learned the first Language! Could an adult do the same if given the same opportunity and exposure to the language, even if there was a comparable natural situation - let us say, where a 17-year-old American girl finds a Japanese boyfriend and some girlfriends and 'plays' with them? We doubt it because of the declining memory and motor skills factors. However, given more time, a young adult in such a situation could be able to acquire the language, although probably without true native-speaker pronunciation.

Generally speaking, as one gets older there is a decline in the kind of social interaction in which promotes language learning. Adult second- language learners will typically have significantly fewer good language-Learning opportunities in a new language community than will children. If the adults mainly stay at home, they will not be able to meet and talk much to native speakers, going shopping, going to the bank, and other such chores, while beneficial, are very limited in time and scope. Second-language interactions in the workplace could also be very limiting, for, because of their lack of second-language ability, adult learners would not be hired to do work that required native speakers to linguistically interact with them in any depth. Whether their work allowed them to use their native language (as business people, language teachers, etc.), or whether

it involved a minimal amount of second -language use (construction work, dishwashing, etc.), in either case learners would only have a limited opportunity to experience appropriate second-language data in the natural situation, Except for situations involving love or money (paying for inductive-type lessons), it is almost impossible to imagine a situation in which adults would be continually exposed to the some good quality and quantity of language that a child receives.

It is important to note that for adults, social interaction mainly occurs through the medium of language. Few native-speaker adults are willing to devote time to interacting with someone who does not speak the language, with the result that the adult foreigner will have little opportunity to engage in meaningful and extended language exchanges. In contrast, the young child is often readily accepted by other children, and even adults, for young children, language is not as essential to social interaction. So-called 'parallel play', for example, is common among young children. They can be content just to sit in each other's company speaking only occasionally and playing on their own. Older children can play games. Adults rarely find themselves in situations where language does not play a crucial role in social interaction.

The older the child, however, the greater the role that language plays in social interaction and the more the person may experience difficulty in being accepted, Peer-group acceptance becomes an even greater problem, especially around the age of puberty. (Even older children who speak the same language but come from a different school or town often have difficulty in gaining acceptance when they enter a new school situation.) Without social acceptance, second-language learning in a natural situation can hardly begin for a learner.

Sometimes older children may not want to identify with a new community and will consequently resist learning the new language. Preston (1989) suggests that because children have not yet developed their own identities, they may be more accepting of the social norms of a new community. Thus, while younger children will be more likely to accept learning a new language and the culture it involves, older children may strive to maintain their own identity and cultural beliefs by avoiding situations which would expose them to using a language and culture that might challenge their view of themselves.

Because language is essential for social interaction and people generally crave such interaction, without knowledge of the second language foreign adults often tend to stick together in a new environment. Friendships for the adult are easier to form in the old language, and sometimes even business can be conducted at least partially in the old language. Then, too, many large cities with sizeable foreign populations have radio, television, and newspapers available in those languages. Such factors tend to reduce the

amount of significant second-language exposure for adults in a way that does not occur for children. In his Acculturation Model of language learning, Schumann (1978) argues that the degree to which a person adapts to a new culture will determine his or her level of attainment in the foreign language. As one becomes more acculturated to the new community, one will have greater contact with the speakers of that community, thus increasing the opportunities for acquisition. Additionally, not only the quantity of interaction but also its quality is affected (Schumann, 1986). With their greater facility for acculturation, children are more likely than adults to interact with the speakers of their new community, with the result that children will receive more opportunities to hear and use the language.

The nature of the language input that adults and children receive may affect their acquisition of a second language. As was discussed in Chapter I, adults and older children simplify the speech they use with children learning their first language. Such simplified speech may well aid the child. In a second-language situation, adults may hear speech directed to them which is similarly simplified. (This is usually done after loud talk fails. The speaker seems to think that the addressee is defective in hearing.) This simplified speech, or 'foreigner talk', shares many of the characteristics of Parentheses in that it consists of well-formed utterances with fewer subordinate clauses and more ordinary vocabulary. Undoubtedly such simplification aids the learner. Although foreigner talk is used by native speakers with both children and adults, children tend to receive more simplification. In a study involving foreigner talk addressed to children between the ages of 8 and 10 as compared with talk addressed to adults, Scarcella and Biga (1981) found that more simplification occurred with the children than the adults. Perhaps this is because it is not as easy to talk to an adult as one would with a child. Such simplified talk may be considered disrespectful and therefore not used. In any case this greater simplification may give children a further advantage in the natural language learning context.

#### b. Classroom Situation

The classroom situation involves the social situation of the school classroom. Each of these types of social situation has its own advantages and disadvantages. The classroom for second-language learning is a planned situation, as we all know, physically, there is a room that is isolated from the rest of social life. In the room there is a teacher and a number of students. The teacher is the one who knows the second language and the students are there to learn the language. In the enclosed space of the classroom, nothing happens (linguistically) unless the teacher makes it happen. Students do not act on their own but follow the directions of the teacher. All other aspects of life are suspended or



subordinated to language learning. This, of course, is very different from the home or community where a lucky second- language learner would eat at a table with others, walk around doing things, work in the garden, go for a drive, etc., all the while hearing and using the second language in conjunction with these activities.

In the natural situation, language is but one aspect of life, an aspect which accompanies other life events. In the classroom, however, language itself becomes the prime aspect of life, around which all else revolves. The language that is to be experienced by the students and the activities which are to be done are planned by the teacher. While there are degrees of planning with more or less emphasis on speech, literary, spontaneity, etc., nonetheless, the course of events is necessarily planned, with the teacher being the planner. In a physically isolated room, where only one person, the teacher, is the prime source of the second language, planning is unavoidable. This is true even for methods which attempt to simulate the natural situation by reproducing in the classroom some of the natural language experiences which occur outside the classroom. Exposure to good native speech, role playing, and games are some of the devices employed to allow for the natural self-discovery of language and its use. Still, it is the teacher who plans and controls such activities.

There are other characteristics of the planned classroom situation which distinguish it from the natural situation. These include social adjustment to group process (individuals must subordinate their behavior and follow classroom procedures for the benefit of all), the need to attend class in order to learn, the need for long periods of concentration, and, when required, having to do home study.

As far as language is concerned, the explicit teaching of grammatical structures and rules may be involved, depending on the method used. Using books and taking no test are often expected of the student. Students have to get used to learning language as an academic subject. Thus, when considering overall the demands of the classroom situation, it is clear that the older one is, the better one is able to adjust and function within that situation.

Young children of ten will not do as well as older children and adults. It is possible, however, for the drawbacks of the classroom situation for children to be overcome to a great extent. The classroom should be made to look cheerful and welcoming and the second language can be learned through play. So long as the focus is on fun and games and not on language, the classroom can become a place where significant second-language learning occurs. By presenting second -language data in this way, the child learns shy induction.

Generally, the ability to learn in a classroom setting improves with age because older children and adults can adapt better to the classroom regimen and are more receptive to materials taught through explication, Thus, a High is assigned to adults in Table 6.1. A Lot», though, is assigned to young children. To the extent that the children's second language experience in the classroom can be one of learning through play, this value can be raised - even to High, in the proper setting with the right teacher.

Table 1 Psychological factors and social factors affecting second-language learning for children and adults

	Psychological factors				Social factors	
	Intellectual				Situation	
	Inductive	Explicative	Memory	Motor Skills	Natural	Classroom
Children under 7	High	Low	High	High	High	Low
7-12	High	Medium	high\med	Med/ High	Medium	Medium
Adults over 12	High	High	Medium	Low	Low	High

C. Other psychological variables.

1. Language Community Contexts

In learning English there are usually two contacts: English as a Second Language (ESL) or English as a Foreign Language (EFL). ESL context provides more language-learning opportunities for the second- language learner through exposure to natural situations outside the classroom, such learners, unsurprisingly, will generally progress more rapidly than learners Living in an EFL context.

Furthermore, in comparing children and adults, we may say that, given that the natural situation benefits children mor e than adults, the ESL context will benefit children more than it will adults, Of course, the ESL context will benefit adults too, but to a lesser degree. Conversely, adults can do better in the EFL context where they can apply their superior cognitive skills for learning in the classroom situation.

2. Motivation and Attitude

The questions of motivation for learning a second language, for instance, is not likely to arise in a natural type of setting such as with a young child. A 1- or 2-year-old needs no motivation to learn a second language; given language input, the young child will automatically learn - with learning even occurring in negative circumstances. An older child of 4 or 5 years, however, may need motivation in order to learn a second language since by that age the child may be aware of whether a language is positively or negatively regarded by others. negative attitude towards the target language or its speakers, or the other members of the class, may also affect one's determination and persistence to be involved in the classroom and its activities you an hourly of the government’s regulatory.

A number of factors which affect second- language learning operates only in certain types of situations, the question of motivation for learning a second language, for instance, is not likely to arise in a natural type of setting such as with a young child. A 1- or 2-year-old needs no motivation to learn a second language; given language input, the young child will automatically learn - with learning even occurring in negative circumstances. An older child of 4 or 5 years, however, may need motivation in order to learn a second language since by that age the child may be aware of whether a language is positively or negatively regarded by others, the planned learning situation such as the classroom, however, presents very different problem. There is an element of choice involved in attending class, listening to the teacher, participating in activities, and in doing assignments. The amount of exposure which one receives and the amount of attention and effort which one devotes to learning may be affected by one's motivation. Dislike of a teacher, for example, could seriously affect language learning unless it is balanced by a high degree of motivation that enables one to persist. There is no reason to suppose, as some theorists have, that some sort of special motivation or purpose is necessary for second-language learning. The goal of wanting to learn a language for the purpose of integrating and identifying oneself with the second-language people and culture (integrative motivation) has been thought by some theorists (Gardner & Lambert, 1972) to be better than learning for the purpose of using the language for some end such as getting a job (instrumental motivation). However, accumulated research evidence indicates that these integrative and instrumental motivations work equally well (Burstall, 1975; Lukmani, 1972). The same could be said for variables such as liking a teacher. In an actual classroom situation, any one of a number of variables could affect motivation. Teachers are generally well aware of this possibility and often devise ways to increase positive motivation and attitudes (Crookes & Schmidt, 1991).

A negative attitude towards the target language or its speakers, or the other members of the class, may also affect one's determination and persistence to be involved in the classroom and its activities (Chihara & Oller, 1978; Gardner, 1985; Gardner & Lambert, 1972; Oller, Baca, & Vigil, 1978; Oller, Hudson, & Liu, 1977). This same negative attitude could impair memory functioning and detract from focusing on the target language. In the same way, any of a host of personality and sociocultural variables could have deleterious effects (H. Douglas Brown, 1987). Many variables, such as status and cultural background, become more potent with the age of the learner and are important considerations in the classroom learning situation. This is not to say that attitude may not play a role in the natural situation as well. By 4 years of age children have developed attitudes towards language. They know how people react to different languages. For

example, children may not wish to use their native, but foreign, language outside of the home. They prefer to conform to their peers and other members of the dominant language community.

### **Conclusion**

In terms of L2 learning rate, adults and older children enjoy an initial advantage over young children that may last over up to one year, sometimes up to three years, particularly if they are tested through tasks that demand cognitive maturity and involve metalinguistic skills. After five years, however, early starters catch up and are better than late starters in second language contexts. In foreign language contexts, by contrast, the lagged advantage for an earlier start has not been observed, even after five years.

In terms of L2 ultimate attainment, most learners who begin acquiring the L2 before a certain age, typically before puberty, will develop levels of morphosyntactic and phonological competence that are very close to those of native speakers of that language. Post-pubertal learners, however, are not likely to perform in the native speaker range, and this holds true regardless of the number of years they have resided in the L2 environment.

Exceptions to the observed success and failure tendencies associated with age exist. Thus, some adult starters can achieve native-like levels in their L2, or at least extremely high levels that are near-native. Conversely, an early start does not guarantee complete and successful L2 acquisition in all cases, as some children who start learning the L2 at an age as early as four or even two may be found to differ from native speaker performance in subtle ways. In the former case, exceptions appear to be related to unusually high motivation and high quality of instruction, whereas in the latter case they appear to be associated with high L1-use levels (that is, with high L1 activation or L1 dominance).

Several explanations for the observed age effects have been proposed and are considered plausible by different SLA researchers. Those in favor of a critical period explanation posit that, after a certain age, it is biologically impossible for the human brain to use the same processes that were involved in learning the L1. Instead, other processes, such as reasoning and problem solving, are summoned during post-pubertal L2 learning. Several neurological and neurochemical causes have been considered (including lateralization, plasticity, myelination and pubertal increases in estrogen or testosterone) but the empirical evidence is still unavailable for any of them. Of the researchers who favor non-biological explanations, some have considered pre-existing knowledge of the L1 and others have emphasized socio-educational and affective-motivational forces.

Recent research suggests that bilingualism effects (e.g. L1–L2 interactions) and language activation and dominance effects (i.e. relative amounts of L1 versus L2 use) operate across all ages, beginning as early as age two. This evidence suggests that it may be misguided to compare

bilingual attainment to monolingual attainment. Thus, in the future, research programmers may need to shift away from the emphasis on a fundamental difference between monolingual child L1 acquisition and monolingual-like adult L2 acquisition and towards investigating changes in the brain and in cognitive processing that are shaped by the experience that results from being exposed to more than one language simultaneously or sequentially and across varying ages.

### References

- Burstall, C. 1975. Primary French in the balance. *Educational Research* 17, June: 193-198.
- Gardner, R. and Lambert, W. (1972) *Attitudes and Motivation in Second-Language Learning*. Rowley, Ma.: Newbury House.
- Harter, S. (1998) The development of self-representations. In N. Eisenberg (ed.), *Hand-book of Child Psychology 3: Social, Emotional and Personality Development*. New York: Wiley, pp. 553–618.
- Hulstijn, J. (2005). Theoretical and empirical issues in the study of implicit and explicit second language learning. *Studies in Second Language Learning*, 27, 129–140.
- Justice, E. M., Baker-Ward, L., Gupta, S. and Jannings, L. R. (1997) Means to the goal of remembering: Developmental changes in awareness of strategy use-performance relations. *Journal of Experimental Child Psychology*, 65: 293–314.
- Krashen, S. 1973: Lateralization, language learning, and the critical period: some new evidence. *Language Learning*, (23), 63 74.
- Krashen, Stephen, Robin C. Scarcella & Michael H. Long. Rowley. 1982 *Child-Adult Differences in Second Language Acquisition.*, MA: Newbury House, Pp. xii, 226. \$13.45, paper.
- Lenneberg, E. (1967). *Biological foundations of language*. New York: Wiley.
- Muñoz, C. (2007) Age related differences and second language learning processes. In R. M. DeKeyser (ed.), *Practice in a Second language: Perspectives from Applied Linguistics and Cognitive Psychology*. Cambridge: Cambridge University Press, pp. 229–55.
- Penfield, W., & Roberts, L. (1959). *Speech and brain mechanisms*. Princeton, NJ: Princeton University Press.
- Olsen, L. and S. Samuels. 1973. “The relationship between age and accuracy of foreign language pronunciation”, *journal of Educational Research* 66: 263-67. Reprinted in Krashen et al. (eds.) 1979.
- Pinter, Annamaria. 2011. *Children Learning Second Languages*. Palgrave and Macmillan.
- Preston, D. R. 1989: *Sociolinguistics and Second Language Acquisition*. Oxford: Blackwell.
- Scarcella, R., & Biga, C. (1981). Input, negotiation and age differences in second language acquisition, *Language Learning*, 31, 409-3 7.
- Schumann, J. H. 1978: *The Pidginization Process: A Model for Second Language Acquisition*. Rowley, MA: Newbury House.
- Schumann, J. 1986: Locative and directional expressions in basic language speech. *Language Learning*, (36), 277 94.
- Snow, C. and Hoefnagel - Höhle, M. (1978b) The critical period for language acquisition: Evidence from second language learning. *Child Development* 49, 1114–28.
- Steinberg, Danny D. Hiroshi Nagata David P. Aline. 201. *Psycholinguistics: Language, Mind and World*. Routledge New York.
- Whitaker, H., Bub, D. and Leventer, S. (1981) Neurolinguistic aspects of language acquisition and bilingualism. In H. Winitz (ed.) *Native Language and Foreign Language Acquisition*. New York: The New York Academy of Sciences.