

# Unmasking Factors affecting Learning Pronunciation: Critical Period or Sensitive Period?

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## Abstract.

The age-related decline in ultimate second language (L2) attainment is perhaps one of the most controversial topics in the L2 acquisition research due to its theoretical and practical implications. Among the various linguistic features, the acquisition of L2 phonology is the least controversial for an age of learning effect. Research findings show opposing results about the effect of age on second/foreign language learning. This study provides an overview of the literature to reexamine the role of age in EFL context. In so doing, this research took a theoretical perspective regarding the effect of age in language learning. More precisely, pronunciation of English language teaching and its corresponding components along with different factors affecting the pronunciation will be delved into the issue. This paper ends with the recent works done in EFL/ESL context. This paper has pedagogical implication for EFL and ESL context.

**Keywords:** pronunciation, critical period or sensitive period, age, native language factor

## 1. Introduction.

The history of the field of SLA goes back to about 40 years and most of the research during the earlier years emphasized language teaching. The approach to L2 learning in the 1950's and 1960's was mainly based on behaviorism and structuralism. While behaviorism as a general theory of learning, explained learning as a process of habit-formation and stimulus-response associations, structuralist theories, as the theory of linguistics, described language as a set of formal patterns without reference to meaning (Ellis, 1990).

Research during the 1960s and 1970s focused more on cognitive approaches to language learning. The aim of the empirical research of that time was to find out to what extent L2 learning was different from L1; Issues such as the age of acquisition (AoA) and its effect on second language learning were among the first popular topics within the new paradigm. During the last 25 years, however, studies of SLA began to focus on understanding the nature of language learning (Gass&Selinker, 2001) and to emphasize the internal mental processing and the learner as an active participant in the language learning process. The Monitor Model (MM) proposed by Krashen (1981;Krashen& Terrell, 1984), was proposed during this period. The MM tried to make distinction between two different ways of developing knowledge of an L2: learning(a conscious knowledge of an L2) and acquisition(a subconscious process similar to the process used in the L1 acquisition).Children, when starting to learn L2 at very young ages, tend to acquire L2 while adults learn it. Neurobiological changes seem to be responsible for this difference as well as sociocultural and contextual factors. Supporters of CPH believe that after a certain age, children start to learn a second language rather than acquiring it. There are different views about the role of age in adult versus child L2 learning, but scholars are more equivocal with regard to aspects related to pronunciation.

## 2. Pronunciation in English Language Teaching (ELT).

Pronunciation was not considered important until the emergence of communicative language approaches to English language teaching (CLT). In Grammar Translation method, pronunciation had no place in classes as it is known that the purpose of language teaching and learning was not pronouncing the language (Celce-Murcia et al., 1996). Reform movement changed the ideas and principles in the language classrooms and with the use of Direct Method (DM) in the late 1800s and early 1900s, pronunciation started to be taught through imitation and intuition (Celce- Murcia, Brinton, & Goodwin, 1996). Teacher, as the role model was the source of input for students to imitate and repeat. With Audiolingualism,(ALM), pronunciation gained remarkable significance. However, in 1960s, pronunciation teaching lost its importance again as grammar and vocabulary became more popular and many ELT programs started to exclude teaching pronunciation. In 1980s, with communicative approach, there was a trend in ELT to teach pronunciation again (Celce-Murcia et al., 1996). Since then, pronunciation has been included in language teaching. The goal of ELT became communication; and this aim encourages pronunciation in the teaching process with a goal of intelligible pronunciation and communication.

According to Brown (2002), pronunciation has sometimes been referred to as the "poor relation" (p.1) of the ELT. He remarked that in pronunciation it is the nature of the process to practice listening and speaking by interpreting and producing phonological features respectively. So pronunciation as a skill includes both recognition and production. If a person has poor and unintelligible pronunciation, a successful communication cannot take place even if s/he has fluent speech with precise grammar and vocabulary use. Likewise, if a person is not aware of the phonological features of the foreign language, it will be difficult to interpret what the speaker

means; therefore, pronunciation should be regarded as a crucial part of communication and it should be integrated in classes (Brown, 2002).

### **2.1. Components of Pronunciation.**

Pronunciation has two main components or features: 1) segmental features which include individual sounds; vowels and consonants., and 2) suprasegmental features which include features beyond sounds; such as intonation, rhythm, and stress.

Segmental features are the separate sound units which are known as phonemes (Roach, 2009). These features may cause difficulties for learners, particularly if learners' mother tongue does not have some sounds English language has or if the place of articulation for the same sounds in native and target languages are different. In order to overcome such problems, Scarcella and Oxford (1994) suggest comparing target sounds with sounds in mother tongue. Celce-Murcia, Brinton and Goodwin (1996) support the presentation of phonemic transcription because they think being competent with phonemic transcription will enable learners comprehend the pronunciation aspects both visually and aurally. Also presenting minimal pairs would be an effective way to teach how to differentiate among different sounds. Providing texts containing minimal pairs will contribute to mental coding of sounds in a meaningful context (Bowen, Madsen, & Hilferty, 1985; Gilakjani & Ahmadi, 2011). Hinkel (2006) believes that teaching has to focus on issues of segmental clarity (e.g., the articulation of specific sounds), word stress and prosody, and the length and the timing of pauses, too.

However, comprehensibility can be achieved by not only focusing on the segmental features but also, and more importantly, focusing on the suprasegmental features of pronunciation. These features include the stress in words and sentences, rhythm, connected speech, intonation. Stress in a word or sentence can be seen in the form of syllables or words that are longer and higher in pitch as well as making a distinction between stressed and unstressed syllables. When word stress and sentence stress are combined accompanied by pauses, rhythm occurs (Celce-Murcia et al., 1996).

### **2.2. Factors Affecting the Learning of Pronunciation.**

A number of factors may affect the pronunciation learning. During pronunciation lessons teachers need to pay attention to factors that can have influence on a learning process of their students. It is usually the native language that is taken into consideration and others are overlooked (Kenworthy, 1990).

1. The Age Factor. One of the main factors, which might affect one's ability to learn the sound system of a new language, is the person's age. Many people assume, that the younger the learner is, the better are they able to hear, distinguish and imitate the new sounds. Kenworthy (1990, p. 4) believes that "prepubescent children learning second language with adequate exposure to the target language can attain near native-like pronunciation", and if a person doesn't begin to learn a second language until adulthood, they will never have a native-like accent even though other aspects of their language such as syntax or vocabulary may be indistinguishable from those of native speakers. However, it is not easy to clearly state, whether there is or is not any age-related limit to the ability to acquire a perfect pronunciation of a second language, since the results of the numerous related studies are conflicting.

Penfield, Roberts and Lenneberg agree with this by stating that there is a period (around puberty) after which brain lateralization, or the assigning of certain functions to the different hemispheres of the brain, is completed (Celce-Murcia, Brinton, & Goodwin, 1996). Based on the findings we can say that it is important to start teaching pronunciation at the earlier stages of second language learning to attain native-like pronunciation with ease.

2. The Native-language Factor. L2 learners' first language phonetic system affects L2 pronunciation and difficulty of learning new features. Each language has a specific system of sounds. When contrasting two languages, there are always more or less differing points to be found, concerning individual sounds, as well as intonation, rhythm or various combinations of sounds (Celce-Murcia, Brinton, & Goodwin, 1996).

Unlike children learning second language, adult learners have already fixed their speech system in terms of the sound system of their mother tongue. It is possible that learners will probably have problems with pronunciation of those phonemes that are similar to those occurring in their mother tongue since they have tendency to pronounce L2 utterances using their L1 phonological system.

Celce-Murcia and Goodwin (1998 as cited in Sharkey 2003, p. 11) claim that "the second language filters through the learner's first language facilitating acquisition when the target pronunciation features are similar and interfering with acquisition when the features are dissimilar or non-existent."

The influence of L1 on L2 pronunciation can be summarized as, the inability to pronounce some letters, which occurs at the beginning stage of learning a new language and makes the learners impossible to pronounce sounds correctly. Another problem experienced by learners is the wrong production of final consonants. In many languages sounding final consonants are restricted and therefore, non-native speakers can have intelligibility problems. Also, some sounds may be absent in L1 and their articulation will be difficult and in some cases impossible for L2 learners (Celce-Murcia, Brinton, & Goodwin, 1996).

3. Exposure to L2 Factor. The extent to which the learner is being exposed to L2, and also if they listen to the language in its native or non-native form affects the learning of L2 pronunciation system (Kenworthy, 1990). More exposure leads to a closer pronunciation to the English native accent.

4. Learners' Phonetic Ability. Even a certain degree of aptitude might influence the pronunciation learning. "Some people are able to discriminate between two sounds better than others, and/or are able to mimic sounds more accurately" Celce-Murcia et al. (1996, p.36).

5. Learner's Attitude and Identity. Just as ELT teachers cannot influence learners' age or motivation, nor can they have control over their attitude or sense of identity (Sharkey, 2003). A learner's sense of identity and his/her attitude towards the target language can increase or obstruct acquisition of comprehensible pronunciation. If learners stay attached to their native culture their ability to acquire intelligible L2 pronunciation is very limited. Learners who unconsciously or consciously apply ethnicity markers into the target language will never achieve native-like pronunciation since their speech will become resistant to changes. This is closely related to Schuman's Acculturation model (Ellis, 2008). Kenworthy suggests that "personal commitment to a community, and a willingness to be identified with the members of that community, can be revealed through the way a person chooses to speak" (1990, p. 8). Also the learner's feeling of identity plays an important role. Generally said, the closer emotional relationship the person has towards the learned language, towards its native speakers and/or the country where the language is spoken, the more probable it is, that they will tend to try to mimic its sound accurately (Kenworthy, 1990).

#### 6. Motivation.

Motivation is related to attitude and appears to be a very influential factor as some of the nonnative speakers are more concerned about their pronunciation than others. Celce-Murcia and Goodwin (1998 as cited in Sharkey 2003) agree that "if the learner's motivation to improve is strong and if the investment of time and effort is genuine, there will be perceived improvement" (p.16).

Sharkey (2003) outlines several motivational factors that make learners focus more on their pronunciation:

- learners want to improve themselves;
- learners want to become a part of the target language community;
- learners need their speech to be intelligible to their children's teachers;
- learners want to improve their employment prospective;
- Learners want to improve their everyday communication skills;

There are also different types of motivation: integrative and instrumental motivation (Brown, 2002). Integrative motivation is defined as a desire to identify or become a member of the target language community. Whereas, instrumental motivation is described as a matter of immediate desire, since the speakers are only orientated towards attaining intelligible pronunciation for their specific purposes.

### **2.3. Definition and Importance of Pronunciation.**

Burgess and Spencer (2000) define pronunciation as "the practice and meaningful use of target language phonological features in speaking, supported by practice in interpreting those phonological features in TL discourse that one hears" (p. 191). They remarked that, in pronunciation it is the nature of the process to practice listening and speaking by interpreting and producing phonological features respectively. So pronunciation as a skill includes both recognition and production.

Hence, it is not difficult to see the importance of pronunciation in a foreign language and its classrooms (Brown, 2002). If a person has poor and unintelligible pronunciation, a successful communication cannot take place even if s/he has fluent speech with precise grammar and vocabulary use. Likewise, if a person is not aware of the phonological features of the foreign language, it will be difficult to interpret what the speaker means; thus, it will not be easy to achieve smooth communication. Therefore, pronunciation should be regarded as a crucial part of communication; since the focus of language learning is communication- at least in theory-, it should be integrated in classes (Brown, 2002; Celce-Murcia, 1996).

### **2.4. How to Teach Pronunciation.**

How to teach pronunciation is a subject of debate. Studies have differed in their findings in regards to whether formal instruction has an effect on pronunciation or not (Flege & Fletcher, 1992 as cited in Chela-Flores, 2001). According to Chela-Flores (2001), pronunciation teaching should begin with teaching rhythm. She argues that although it is perhaps the most difficult component of pronunciation, once the learners have a basic understanding of the rhythmic features, it will be easier for them to progress in other features of pronunciation which will ultimately give way to comprehensibility and comprehending ability.

Also the distinction between the content words and function words can be made familiar to students which will lead in grasping stressed words in a sentence easily (Chela-Flores, 2001). As mentioned earlier, content words in sentences carry stress and thus convey the meaning while the function words remain unstressed. This instruction can go along with vocabulary patterns and referring expressions such as pronouns.

Celce-Murcia, Brinton and Goodwin (1996) also suggest several techniques and practice materials on how to teach pronunciation; these techniques and activities are commonly used by teachers when pronunciation

is addressed: 1) Listen and imitate, 2) Phonetic training, 3) Minimal pair drills, 4) Contextualized minimal pairs, 5) Visual aids, 6) Tongue twisters, 7) Developmental approximation drills, 8) Practice of vowel shifts and stress shifts related by affixation, 9) Reading aloud/ recitation, 10) Recordings of learners' production (pp. 8-10)

### **2.5. Teaching Pronunciation.**

Celce-Murcia et al. (1996) state that in comparison to such areas of language as grammar and vocabulary, the study of pronunciation began much later, and thus language teachers have often been better skilled at the teaching of the first two. Pronunciation pedagogy has since developed into two approaches (Celce-Murcia et al., 1996, p. 2):

- the intuitive-imitative approach;
- the analytic-linguistic approach.

The intuitive-imitative approach relies on the learner's imitation based on heard models of spoken language. It does not therefore involve specific information and teaching about pronunciation. The analytic-linguistic approach, on the other hand, employs various aids such as phonetic symbols and images of speech organs. Today the two approaches complement rather than exclude each other. Initially the teaching of pronunciation was designed to imitate the natural acquisition process of a child's first language. For instance, the Direct Method was based on observing and imitating a model. The method was a naturalistic method which share the notion that language should only be listened before an attempt to speak is feasible. With the advent of the Reform Movement in the late 1800s and along with the establishment of phonetics as a science, a more analytic approach to teaching pronunciation took hold, and in particular phoneticians called for a more thorough education in phonetics for both teachers and learners. The Reform Movement challenged the grammar-translation methods and promoted a scientific approach to language teaching. The International Phonetic Alphabet was also created at this time and it provided a practical tool for the teaching of speech sounds.

At the beginning of the 20th century the so called Oral approach was developed in the UK and what distinguished it from previous methods was its heavy focus on context that is, learning a language in meaningful situations (Knight, 2001 as cited in Celce-Murcia, 2007). In the 1940s and 50s an approach called Audio-Lingualism (ALM) was established and pronunciation was "at the core of language teaching" (Celce-Murcia, 2007, p. 3). In Audiolingualism the explicit teaching of pronunciation also involves the so called minimal pair drills, in which learners are taught to listen to sounds and to distinguish between minimal pairs, that is, word pairs that vary in only one phoneme such as deep/dip and sheep/ship.

As part of the cognitive approach of the 1960s, however, teaching grammar and vocabulary was preferred over pronunciation since native-like pronunciation was seen as an unachievable objective. Several humanistic methodologies emerged in the 1970s and what they had in common was a holistic view of the learner as well as of the learning environment (Knight, 2001 as stated in Celce-Murcia, 2007). The Silent Way, Community Language Learning, Suggestopedia and Total Physical Response methods all aimed at focusing on learners' emotional and/or physical resources in order to enhance the outcome of learning. Community Language Learning also emphasized the learners' responsibility of their own learning and used a technique called human computer in teaching pronunciation (Celce-Murcia, 2007). This meant that the learners' successful utterances were recorded on tape and could be played back to them if they wished to further practice the pronunciation of specific sounds.

"At present language learning is considered to be primarily about communication" (Celce-Murcia et al., 1996, p. 7). Celce-Murcia's (2007) model for communicative competence consists of six areas which can be further divided into sub-components.

### **2.6. Teachers' Role in Teaching Pronunciation.**

As models of pronunciation, teachers have a huge responsibility in their classrooms; they influence their learners either in a positive or negative way and their main goal is to create a friendly and supportive atmosphere. On the other hand, their practical proficiency is not sufficient since if the teacher can only exemplify pronunciation by his or her own speech performance, the learners will not be able to know what is significant to focus on (Dalton & Seidlhofer, 1994). During the pronunciation teaching, teachers not only serve as guides who help their students to form necessary categories and establish priorities, but also they need to provide their students with appropriate exercises and relevant feedback.

On one hand, there are so called gifted learners that are able to pick up the pronunciation of the target language only by being exposed to it, and on the contrary many students need explicit explanations to be able to acquire and imitate difficult sounds when speaking. Generally speaking they need a teacher who would draw their attention to how sounds should be pronounced and guide them in order to achieve intelligible pronunciation (Dalton & Seidlhofer, 1994). Kenworthy (1990) offers several roles for teachers in pronunciation learning process:

#### **a. Helping learners hear**

The role of teachers is to help their students to perceive sounds that are often misperceived because of the false similarity in learners' mother tongue. "Teachers need to check whether their learners are hearing sounds according to the appropriate categories and help them to develop new categories if necessary" (p. 1).

b. Helping learners make sounds

In this situation teachers have to explain and guide their students how to imitate and pronounce new sounds that do not exist in their mother tongue.

c. Providing feedback

Teachers need to give their students accurate and constructive feedback about how they are doing, since they are not able to judge whether their pronunciation is comprehensible or not. Not providing students with feedback could mean that students make wrong assumptions about pronunciation.

d. Pointing out what's going on

As speaking is unconsciously controlled, students can miss important features of conversation, and therefore teachers should always highlight the key features.

e. Establishing priorities

Learners themselves are aware that their pronunciation is in some ways different in comparison with native speakers, but what they are unaware of is whether it is relevant or not. Here teachers guide them which features they should focus on and which not.

f. Devising activities

When choosing the most suitable activities that offer the best opportunities for practice teachers need to also take into consideration students learning styles as the effectors of their progress.

g. Assessing progress

Assessing progress is not an easy task for any teacher but providing students with information about their progress is essential for further motivation.

### **2.7. Techniques to Develop Listening Comprehension.**

According to researchers (Rost, 2002; Graham, 2006), learners should be trained in the aforementioned processes of listening, bottom-up and top-down processes, to use the both together because one alone is not enough to develop listening comprehension. Brown (2008) explains that in real-world listening bottom-up and top-down processes occur together, and which one is needed more depends on the purpose of the listening, the content of the input, learners' familiarity with the text type, and so forth. Wherefore, it is difficult to separate these two processes.

Using top-down and bottom-up strategies alone will not aid in improving this involved process (Ur, 1984). The previous literature suggests integrating various techniques into classrooms such as benefiting from authentic materials, and use of technology (Ur, 1984). Using technology can promote the development of listening comprehension by providing learners with compelling, interesting material and it can also aid listening comprehension development by enhancing listening input (Rost, 2007). Using authentic materials include use of songs, TV serials, movies, documentaries; and using technology includes use of videos, computers, soft wares, and the Internet. With this respect, it is not difficult to conclude that authentic materials and technology take place together since they are overlapping; also, technology is needed to operate authentic materials.

Another important point to take into consideration is integrating different language skills in order to enhance the development of each skill (Rost, 2002). It is almost impossible to separate skills when conducting an activity in a lesson. A teacher needs to make use of listening while introducing a speaking topic, or s/he needs to employ vocabulary activities before a reading passage. Integrating skills will make the activities, classes more meaningful, motivate students and create interesting contexts.

### **2.8. The Critical Period Hypothesis (CPH)**

The ease with which children acquire pronunciation can be explained by the critical period, which is "biologically determined period of life during which maximal conditions for language acquisition exist" (Celce-Murcia, Brinton, & Goodwin, 1996, p. 15). It is nearly impossible for learners, who start learning foreign language after this critical period, to achieve natural pronunciation since the brain loses its plasticity (Celce-Murcia, et al., 1996). This means that during the critical period a second language is acquired naturally and more easily since the brain is more flexible. The fact that the critical period lasts till puberty explains why adolescents and adults find pronunciation learning so problematic and need explanations how to produce different sounds in order to be able to pronounce them (Kenworthy, 1990).

Lenneberg (1967) presented three important arguments implicating puberty as the close of the critical period. The first is based upon studies in neurology which indicate that various maturational growths remain steady during the early teens. The second argument concerns findings in aphasia which seem to show that the chances for recovery of lost language functions are very different for children and adults. The third argument is related to the language development of Down's Syndrome children which appears to follow a normal but slowed-down course until it is "frozen" at puberty (p.175).

The CPH mainly contends that the ability to learn a language is limited to the years before puberty after which, most probably as a result of maturational processes in the brain, this ability disappears. Since Penfield and Roberts (1959), and especially since Lenneberg (1967), this has been one of the most hotly debated issues in psycholinguistics and, generally, in cognitive science. Bley-Vroman (1989) assumes that first and second language acquisition are two fundamentally different processes. Nowadays there seems to be a wide acceptance

that there is a CP for first language (FL) acquisition, with compelling evidence that, unless they are exposed to language in the early years of life, humans lose the ability to learn a language, especially its grammatical system. The situation with (adult) L2 acquisition is less clear.

According to Long (1990, p. 256) "the homogeneity of the process in terms of onset, rate, sequences, age of completion, level of ultimate attainment, etc. across cultures and environments suggests that it is biologically scheduled", which means that he believes in the existence of a critical period for L1 acquisition. In addition, there is an increasing body of evidence from a variety of sources, such as "L1 acquisition by linguistically isolated children like Genie, acquisition by hearing children of deaf adults, by deaf children of hearing adults, and late acquisition of American Sign Language, etc." (p.262) all of which support the CPH also for L1 acquisition.

Critics of the CPH however point out that the attested age-related decline in adult L2 learning ability is too gradual to be seen as the result of a critical period. They also point to the nature of errors which adult L2 learners have been found to make: more often than not these errors affect SL structures which are different from the learners' L1 (Bley-Vroman, 1989). According to Bley-Vroman (1989), the issue of CPH is closely related to the issue of access to Universal Grammar (UG) in L2 learning in that after a certain age (puberty) UG is no longer available. Following the Fundamental Difference Hypothesis (FDH) proposed in Bley-Vroman (1989), in contrast to first language acquisition, L2 learning uses the L1 (rather than UG) as background knowledge.

Age is one of the main factors that affect the second language (L2) acquisition process. It is commonly believed that younger L2 learners acquire the language better than older learners. However, studies in language acquisition show that there are four propositions that are related to the effect of age on second language acquisition (Singleton & Ryan, 2004). The first position states that L2 learners whose exposure to the L2 begins in childhood are globally more efficient and successful than older learners. This position is supported by the Critical Age Hypothesis (Singleton & Ryan, 2004), which states that there is a fixed period of years during which second language learners can achieve native-like proficiency and after which it is not possible to achieve.

The second position states that L2 learners whose exposure to the L2 begins in early adulthood are globally more efficient and successful than younger learners. Singleton and Ryan (2004) suggested that, "Evidence favoring the hypothesis that older L2 learners are more successful than younger ones mostly comes from studies of learning as an outcome of formal instruction ..." (p. 72).

The third position states that L2 learners whose exposure to the L2 begins in childhood are more efficient and successful than older learners only in some respects.

Because of the contradicting results of the research referred to in the previous two sections, some researchers suggested that younger learners might be better than older learners in certain linguistic areas.

The fourth position states that adolescent/adult L2 learners are initially more efficient, but in the long run the younger a learner is when the L2 acquisition process begins, the more successful the outcome of that process will be (Singleton & Ryan, 2004). According to Larson-Hall (2008), most studies on the critical period seem to favor the theory that "the younger, the better" (p.46). However those studies have been conducted when learners were active participants and culturally involved in the target country. The participants were actively exposed to the target language on daily basis and received great amount of exposure to the target language outside of the classroom. Researchers agree on the importance of the amount of exposure regarding the critical age of SLA because there is no guarantee of "the younger the better" when the exposure is minimal. As discussed by Larson-Hall, children and adults learn language through different strategies and have different learning abilities. She talks about how young learners learn in an implicit way, which makes minimal exposure to the target language not enough to form morphological, syntactic or phonological system. This statement is confirmed when older results are analyzed and show that there is no linguistic advantage of SLA, having in mind "the younger the better" when the exposure is minimal (Larson-Hall, 2008).

### **2.9. Sensitive Period Hypothesis (SPH).**

Throughout the CPH literature, there is a large variety of views on its nature, e.g., whether it is a critical, a sensitive, or an optimal period, on its origin, e.g. whether it is caused by maturational or cognitive or some other factors, on its onset and completion times, etc. (Patkowski, 1980). There have been a number of studies (e.g. Oyama, 1976; Johnson & Newport, 1989, etc.) showing that young children have advantage over adult L2 learners with regard to ultimate attainment. However, such studies have often been criticized; according to the critics of the CPH (e.g., Bialystok, 1997), the crucial question is not whether children are more successful L2 learners than adults, but rather whether it is impossible for adult L2 learners to achieve native competence in the target language; Long (1990, p. 274) puts it, "the easiest way to falsify CPH would be to produce learners who have demonstrably attained native-like proficiency despite having begun exposure well after the closure of the hypothesized sensitive periods".

According to Hurford (1991 as stated in Ellis, 2008), the term "sensitive period" (p.159) is sometimes used for a less marked kind of critical period. The difference between a critical period and a sensitive period is "fuzzy" (p.160). SP maintains the likelihood of a period which declines, but not absolutely abrupt/stop. Aitchison (1989) concludes that there is no evidence of a sudden start, or final endpoint of the CP. "Instead, we are dealing

with a phenomenon well known in animals, i.e., the fact that young brains are more flexible than older ones" (Aitchison, 1989, p. 89). Oyama (1976) also gives evidence for a sensitive period for the acquisition of the phonological system of a second language.

Sensitive periods are of interest to scientists and educators because they represent periods in development during which certain capacities are shaped or changed by experience. Critical periods are a special class of sensitive periods that result in irreversible changes in brain function (Oyama, 1976).

By all these, the notion of a sensitive period for the acquisition of a second language has been debated in the field of L2 acquisition for some time. CPH concerns the existence of a critical period for the acquisition of a first language extending from about the age of two to the close of puberty (Lenneberg proposed 14 years as the critical turning point) (Oyama, 1976). CP refers to the notion that the age limitation is absolute in the case of first language acquisition which basically means no L1 language can be acquired after the CP, and evidence from Genie and other children who have been deprived from L1 until after puberty confirms that. Hence, Lenneberg's CPH applies for L1 acquisition specifically while the term "sensitive period" can mainly be used in the case of second language acquisition.

On the other hand, SP refers to the fact that the age limitation on L2 acquisition is not absolute in the same sense as CP. It is indeed possible to acquire a second language after the sensitive period, but it would theoretically not be possible to do so to the extent of attaining native-like proficiency (Patkowski, 1980).

Concerning the implication of CPH for L2 acquisition (Lenneberg, 1967) asserts that our ability to learn foreign languages tends to confuse the picture. Most individuals of average intelligence are able to learn a second language after the beginning of their second decade, although the incidence of "language learning blocks" (p. 176) rapidly increases after puberty. Moreover, a person can learn to communicate in a foreign language at the age of forty. This does not trouble our basic hypothesis on age limitations because we may assume that the cerebral organization for language learning as such has taken place during childhood and since natural languages tend to resemble one another in many fundamental aspects, the matrix for language skills is present.

### **2.10. English Language Consonant Sounds.**

Consonants are sounds that are produced with closed or nearly closed articulations and are "formed by interrupting, restricting or diverting the airflow in variety of ways" (Kelly, 2000, p. 47). According to Kelly (2000), Consonants are classified based on three criteria: The manner of articulation, the place of articulation, and the force of articulation. The force of articulation is focused on a difference between voiced (Lenis) and voiceless (fortis) consonants. The manner of articulation means the way to produce sounds in the vocal tract. Based on the manner of articulation consonants can be divided into six categories (Roach, 1992):

1. Plosives which are produced when a complete stricture is created somewhere in the vocal tract and the soft palate is raised at the same moment. After forming the closure and having compressed the air behind it the sound released making the sound of explosion. e.g. /k/, /g/.

2. Fricatives which are created when the air that goes through a small passage in the vocal tract produces a hissing sound e.g. /s/, /f/.

3. Affricatives which begin as plosive consonants but they finish as fricative e.g. /tʃ/.

4. Nasals. When air passes through the lowered soft palate they are formed, and nose since the lips make a closure e.g. /m/, /n/

5. Lateral. The tip of the tongue causes a partial closure against the alveolar ridge and therefore the air passes along the sides of the tongue e.g. /l/.

6. Approximants. During the production of the consonant the articulators do not approach enough to create a complete consonant e.g. /w/, /r/.

As far as the place of articulation is concerned, various organs of speech must be taken into consideration (Roach, 1992; Kelly, 2000) and we have 8 categories of consonants:

1. Bilabial: The lips are almost or totally pressed together e.g. /p/, /m/.

2. Labiodentals: The lower lip is in contact with the upper teeth /f/, /v/.

3. Dental: The tongue touches the teeth e.g. /ð/, /θ/.

4. Alveolar: The tip of the tongue touches the alveolar ridge e.g. /t/, /s/.

5. Palate-alveolar: The tip of the tongue is pressed behind the alveolar ridge e.g. /tʃ/.

6. Palatal. The tongue is in the middle raised against the palate e.g. /j/.

7. Velar. The back of the tongue is raised against the soft palate e.g. /k/.

8. Glottal. A gap between the vocal folds is used to produce audible friction, e.g. /h/.

### **2.11. English Dental Fricative Sounds.**

The fricative consonants, /ð/ and /θ/, are dental sounds produced when the tip of the tongue is placed between the upper and lower teeth; the soft palate is raised all the time. In other words, the sounds are made by putting the tongue between the teeth so that the blade is extended just forward of the teeth and the tongue is the active articulator (Roach, 1992). The consonant /ð/ is "voiced interdental fricative", whereas /θ/ is "voiceless interdental fricative" (Roach, 1992, p. 50).

Since these two consonants do not exist in Persian language and their mispronunciation may influence learners' intelligibility, teachers need to focus on the explanation how to produce them. Kelly suggests teachers to "ask students to put the front of your tongue against the back of your teeth. Let the air pass through as you breathe out. Don't use your voice. Hold the sound and, add your voice"(2000, p. 55).

Another technique that may help learners to pronounce the sounds is to 'put a finger against the lips and try to make the finger touch the tip of the tongue and then breathe out" (Kelly, 2000, p.56). Since the voiceless dental fricative /θ/ does not exist in Persian, the speakers might replace it by /s/, /f/ or /t/. Also English speakers whose L1 is Persian might replace /ð/ by /z/ or /d/.

### **2.12. Minimal Pairs.**

The Minimal Pairs can be useful ways to teach the /ð/ and /θ/ contrast to L2 learners. Catford states that "phonemes are the minimal sequential contrastive units of the phonology of language"(1992, p. 198). The contrastive function of phonemes is that there are the bits of sounds that differentiate one word from the other e.g. pin is differentiated from bin by the distinctive initial consonants/p/ and /b/. The sequential function means that "the phonological form of a word consists of a sequence of phonemes, and that every phoneme consists of a set of (simultaneous) distinctive features"(Catford, 1992, p. 201). The minimal function of phonemes means that phonemes are the smallest units which cannot be further divided (Roach, 1992). In teaching English dental fricatives we can have, day and they, or three and tree.

### **2.13. Accent and Intelligibility.**

It is a widely accepted fact that a person's first language (L1) has impact on second/ foreign language learning, including pronunciation (Derwing, 2008). For instance, Japanese learners of English tend to have difficulty in distinguishing between and producing the liquid consonants /r/ and /l/ since in Japanese the two are allophones (Derwing, 2008). As a result, they are said to have nonnative English accent. Accent is a common term to describe the way in which a person pronounces a language. Language cannot be spoken without pronouncing it, thus everybody has an accent (Andersson&Trudgill, 1990 as cited in Derwing, 2008).

However, the term accent tends to be used of ones that differ from our own and reveal that the speaker hails from somewhere else. For example, Ladefoged (2005as cited in Derwing, 2008, p. 2) notes that "An accent is always what the other person has; we seldom view ourselves as speaking our native tongue with a particular accent". Sometimes the term accent is confused with intelligibility or comprehensibility, although they can be considered separate aspects of oral output(Ladefoged, 2005as cited in Derwing, 2008).Ladefoged explains how accents can be divided into subgroups based on their cause and possible implications. One division is intralanguage versus interlanguage accent. The former refers to accents within one language. It is usually the result of regional variation and present in all living languages. The latter describes the possible effects of a person's first language on second or foreign languages.

Foreign accent is an evidence of language transfer, and although there was a time when it was classified even as a speech disorder, today it is perceived as highly predictable for second language learners, particularly if they learn a language at a later age, and as something that as such need not be a problem (Derwing, 2008).Accents can also be categorized as phonetic or phonological, depending on the extent to which they deviate from the standard of any particular variety. A phonetic accent does not change the meaning of a word but might hinder its intelligibility and cause confusion in the listener, sometimes prompting requests for repetition. A phonological accent, on the other hand, alters the meaning of a word as the speaker has trouble producing the correct sound.

Scheuer (2005 as cited in Derwing, 2008) notes that it is important to distinguish between accent and intelligibility and to remember that having a foreign accent does not automatically make anybody's speech unintelligible. In many cases foreign speech can be difficult to comprehend not because of its sounds as such but because of its speed as well as cultural references that might not be familiar to the listener. In intercultural communication situations native speakers should speak at a lower rate and avoid the use of idioms, colloquialisms and very formal language.

### **2.14. Language Attitudes and Native-Accent.**

There is a current view on English being the lingua franca, and the communication that takes place between people is mostly among non-native speakers of English, rather than between native speakers and non-native speakers (Jenkins, 2000; Canagarajah, 1999; Hinkel, 2006). Therefore, it is not expected from a learner to produce all aspects of pronunciation such as the connected speech; reduced forms, and so forth. Also, the consensus over the intelligibility purpose of pronunciation teaching suggests learning the target language pronunciation well enough to be able to communicate: speak intelligibly and comprehend what is uttered (Hinkel, 2006). In this respect, pronunciation teaching does not always need to focus on production to the full extent; rather it may focus on recognition; awareness raising activities.

It can be speculated whether learners have more positive attitudes towards traditional native models because they are aware of other people's prejudice against non-native accents, or whether they truly have the aims of acquiring native pronunciation any reason (Jenkins, 2000). Seidlhofer (2005, p. 64 as emphasized in Hinkel, 2006)

predicts that the attitudes towards the native English accent will change with time in the same way as American English has come to be accepted as a model over the past decades.

Most importantly, research shows that eliminating the first language's influence on second language pronunciation is the most difficult task for second language learners to overcome (Flege, 1987). Accent is statistically the last skill to attain native-likeness and it is thus the most common first language aspect that is rarely eliminated. Because of the inherent obstacles that non-native speakers (NNSs) face in adopting native-like pronunciation and usage, an English as a Lingua Franca (ELF) movement has developed. This movement aims to ignore native standards altogether and to instead identify those structures NNSs have in common. As for the motivational aspect of young learners towards SLA, they generally have more positive attitude towards SLA and are highly motivated. Therefore, the teacher plays a significant role during the learning period. However, as they grow older, the impact changes and other factors seem to influence the ups and downs of young learner's motivation.

To explore further the motivation and attitudes towards learning a second language, Larson-Hall's investigation from 2008 suggests that young learners have more positive attitude towards studying a foreign language (Larson-Hall, 2008). In conclusion, the study made by her focused on if there was any correlation between starting early and high scores in environment that provided minimal input of exposure to the second language as the debate has often been about how age plays a significant role in a natural or immersion environments. According to her, this is not always true as she argues that "age does seem to play a non-negligible role in improving second language acquisition, given that language learners receive enough input" (p.24). Moreover, the reality is that age can play a role in improving second language acquisition, but it is important to provide students with enough exposure to the target language during their learning process.

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#### **2.15. ELT Methods and Pronunciation.**

In the early 19th century, the grammar translation method was primarily focusing on translations "into and out of the target language" as well as the reading and writing skills (Richards & Rodgers, 1992, p. 3). Until the Reform Movement (1880s) the focus of language teaching did not shift to speech. The IPA (International Phonetic Association-1986) was, in this sense, founded and it was designed in order to represent the transcriptions of the all languages' sound patterns. The disciplines of the movement gained new status to teaching speech and phonetics appeared as a new field. The principles were including important ideas concerning the position of pronunciation teaching; the study of the spoken language, phonetic training in order to establish good pronunciation habits, the use of conversation texts and dialogues to introduce conversational phrases and idioms" were fundamentals of language teaching (Richards & Rodgers, 1992).

The pioneers of the movement have thought that language teachings have been beyond teaching grammar rules and translation of written materials. To them, speech patterns, rather than grammar, were the fundamental elements of language and their teaching methodology was shaped according to this view (Howatt, 1984), and added "training in phonetics would enable teachers to pronounce the language accurately" (Richards & Rodgers, 1992, p. 8). The reformists inspired the basic rules of the Direct Methodists and provided new classroom teaching methods such as the ALM.

#### **2.16. The Audio-lingual Method (ALM).**

During the period of the World War II, the American Army needed military personnel that could speak and understand the enemy's language. Therefore, Army Specialized Training Programs were formed in 1942. American Universities were, on the other hand, responsible for training both these officers and students by applying intensive language programs. Especially during and after the war, thousands of foreign students had come to America in order to get a University degree. Training in English language was obligatory before attending to any university. These resulted to new approaches to language teaching (Richards & Rodgers, 1992). In this sense, the informant method was developed by Bloomfield (1940s as cited in Richards & Rodgers, 1992) and his colleagues at Yale University. In the informant method, there was not text book, and a native speaker of language was the model for teaching, instead. It was represented as a source of phrases and vocabulary, and the teacher provided just sentences for imitation. Learners were expected to learn by taking part in conversation with informant and learn how to speak as well as to practice grammar. The program of informant method was an intensive one including "fifteen hours of drill with native speakers and twenty to thirty hours of private study spread over two to six week sessions" (Richards & Rodgers, 1992, pp. 44-5).

In the 1940s, the "Oral Approach, Aural-Oral Approach, and Structural Approach" were used together in foreign language teaching. In the second half of the 1950s, Fries and his colleagues added behaviorist approaches to this combination. That combination was later called the Audio-lingual Method in the linguistics literature (Howatt, 1984).

ALM was regarded as a process of mechanical habit formation by applying stimulus response chains in language teaching. Spoken forms of language were more important than the written forms. Changes in language teaching methodology also influenced pronunciation teaching methods and curriculum. For example, Hişmanoğlu (2006) states that pronunciation programs during ALM were viewed as meaningless non communicative drill and exercise gambits". He explains the reason for this condition by citing that "for many, little relationship exists between teaching pronunciation in the classroom and attained proficiency in pronunciation; the strongest factors found to affect pronunciation (i.e. native language and motivation) seem to have little to do with classroom activities" (p. 103).

However, the information conveyed by Howatt (1982) shows that pronunciation teaching has been an important part of language teaching at least since the Reform Movement. Howatt (1982), in this context, notes that "The heart of the Reform Movement's philosophy was the supremacy of the spoken language. The children hear the new language first, spoken properly by the teacher in the classroom, before seeing it in its written form. Moreover, when they did come to read the texts, they should not be misled by the use of the phonetically irregular and inconsistent traditional orthography, but should see the words in especially prepared, phonetically transcribed form first" (p. 265). ALM demanded native like pronunciation which seems an unrealistic goal. One of the most widely accepted points of criticism toward this method is that, the learners lacked engagement in meaningful language use and had only limited opportunities to use the target language creatively while interacting with their peers.

### **2.17. Communicative Language Teaching.**

In the late 1960s, the ALM was replaced by a new approach, CLT. With the emergence of this method, pronunciation teaching gained its real position as Hişmanoğlu (2006, p. 103) stated "Chomsky's new principles in language and linguistics played an important part in this process. To provide communicative competence and develop procedures for the teaching of four language skills to language teaching became two basic essentials".

### **3. Empirical Studies.**

#### **3.1 Works Done in the ESL Context.**

Studies on accent by Oyama (1976) and Seliger, Krashen, and Ladefoged (1975) which investigated the relation of age of acquisition with the attainment of native-like pronunciation have supported evidence for the notion of a sensitive period for the acquisition of a second phonological system. The results in both cases showed that age of acquisition is a strong predictor of accent, while various motivational and practice factors have little effect.

It is important to investigate if L2 learning capacity declines over a period. There are relatively few studies that investigate SLA achievement between old and young language learners. Seright (1985 as cited in Singleton & Ryan, 2004), points out that only few studies dealing with success and age-related issues between young and old learners, show that the younger learners perform better than adult L2 learners.

Within the ESL context, since the early 1990s, some studies have shown positive results of older beginners that achieve high level of L2 proficiency. White and Genesee (1996 as cited in Singleton & Ryan, 2004) hardly found any differences between English Grammatically test scores among native-like French speakers who began learning English after the age of twelve and those attained by native-speakers in language control groups.

There is another hypothesis that indicates that younger learners are extremely efficient in acquiring native-like accent in second language. It has to be taken into account that for this to happen, it is important that the exposure to the target language is sufficient. Moreover, this is confirmed by Singleton and Ryan (2004) as he states "the strong version of this position being that unless exposure to the L2 begins in the childhood years an authentic accent will not normally be acquired" (p. 84). However, Singleton and Ryan points out that all of those investigations were the result of formal instruction. In other words, these investigations are short-term research and based on SLA in primary school classroom and L2 bilingual programs. Also, the results of some immigrant studies indicate an advantage for older learners.

In the ESL context, a number of studies show that early age of entry into the country where the target language is used leads to successful second language acquisition (Singleton & Ryan, 2004). For example, Asher and Garcia (1969) conducted a study that involved 71 Cuban subjects who entered the US ranging in age from 7 to 19 years old. Thirty American students served as the control group. The subjects in both the groups were asked to utter sentences in English. The scores were based on a four-point scale, ranging between native speaker and definite foreign accent. Most of the subjects who entered the US at an early age achieved a near-like accent. Asher and Garcia concluded that age can predict the success in second language acquisition.

In an ESL context, Fathman (1975) also examined 140 subjects who came to the US and who spoke different L1s. The ages of the subjects ranged from 6 to 15 years old, and they were all exposed to English for

the same period of time. The test had two sections: phonology and morphology and syntax. This study showed that subjects between the ages of 6 and 10 achieved significantly higher scores than subjects between the ages of 11 and 15 in the phonology test. On the other hand, subjects between the ages of 11 to 15 achieved significantly higher scores than the younger subjects on the grammar test.

### 3.2. Works Done in the EFL Context.

In the EFL context, one of those earlier studies from 1974 (e.g., Oller and Nagato, 1974) involve Japanese elementary school students who were starting to learn English (1-2 hours per week) and they compared them with older students who were beginning their SLA in junior high. Statistical differences were diagnosed within the younger learners but not within the older and the conclusion was that the advantages of the younger learners were not present anymore.

Regarding the relationship between age and pronunciation, several studies give advantage to children. Cochrane and Sachs (1979) made a comparison between children and adults on imitation of Spanish words and found children to be superior in imitative tasks and suggested that they may possess some special aptitude for phonological acquisition. Neufeld (1979) also argued that he was able to teach second language learners to perform like natives on certain tasks after specialized training.

Rosenman (1987) concluded in his study that young English speaking adults discriminate and are able to reproduce Spanish sounds better than children. A large body of literature exists on international teaching assistants (TA) and professors that further our understanding of NS – NNS accent attitudes. Rubin (1990) found that forty percent of their undergraduate sample said that they preferred to avoid classes taught by foreign teaching assistants. Bresnahan, Ohashi, Nebashi, Liu, & Shearman (2002) found consistently strong correlations between stronger foreign accent and negative attitudes. An attitude towards accents study was made by Estekiand Rezazadeh in (2009). The study "relies on the assumption that gender differences contribute to the exploitation of a foreign accent while speaking in English. In other words, male and female language learners adopt different attitudes towards recouring to their L1 accent." (p.140). In recouring to their own accent, such learners reflect their attitude towards the foreign language. Thirty advanced Iranian EFL learners studying at the Language Institute of Khomeini Shahr participated in the two measuring instruments designed for this study, namely a questionnaire and a structured interview. The researchers concluded that there was a significant relationship between the gender of the subjects and their susceptibility to preserve their L1 accent. Males' speech in English was, unlike the females', greatly affected by their L1 local accent. This, however, proved the "widely- held belief ... that girls are more capable to approximate their accent to a native-like status" (p. 142). Thus, they unlike the males, reflected a positive attitude towards the English accent they were learning in the institute.

Another important point to take into consideration is integrating different language skills in order to enhance the development of each skill. It is almost impossible to separate skills when conducting an activity in a lesson. A teacher needs to make use of listening while introducing a speaking topic, or s/he needs to employ vocabulary activities before a reading passage. Integrating skills will make the activities, classes more meaningful, motivate students and create interesting contexts. For listening, the case is similar. Many researchers (e.g., Ellis, 2003; Hinkel, 2006) emphasize the strength of integrated presentation over the separate presentation of skills. Listening can be used as an aid to reading or speaking skills throughout different sections of classes; similarly, listening can benefit from particular skills like pronunciation. There have been various research studies examining the effects of using technology and authentic materials within classes on listening comprehension. In their study exploring the efficacy of videos with subtitles on listening comprehension, Hayati and Mohmedi (2011) formed three groups: L1 subtitled group, L2 subtitled group and without subtitle group. The findings indicated that the group with English subtitles (L2 subtitled) outperformed the other groups.

In Iranian context, Moyer (2004) tried to find the relationship between age and the perception and production of English speech sounds by Persian speakers. She also tried to find out the relationship between gender and the discrimination and production of English speech sounds. Sixty subjects took part in her study. They were divided in two groups of thirty children and adults, including fifteen males and fifteen females. The results supported the idea that children and adults have equal aptitude for perception and production of the English sounds, and that there is still room for an innate faculty to continue its work in adulthood. Moreover, gender did not affect perception and production of English sounds.

Daryagasht and Khodabandehlou (2014) investigated the effect of instruction of pronouncing absent consonants of English in Persian on female intermediate EFL learners' pronunciation. 80 students participated in their study. After a pre-test of pronunciation, the experimental group went under 20 sessions of treatment on pronunciation. All the recorded voices were evaluated using Rosetta stone software. The results showed the pronunciation of participants in the experimental group improved significantly.

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