

People's Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research
Mohamed Kheider University of Biskra
Faculty of Letters and Languages
Department of Foreign Languages
Section of English

THE AGE FACTOR IN SECOND LANGUAGE
ACQUISITION AND ITS EFFECTS ON LANGUAGE
PROFICIENCY

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degree in
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Submitted by:

DAHMANE ABDELBASSET

Supervised by:

Mr. LAALA YUCEF

Board of Examiners:

Mrs. REZIGUE NADIA

Mrs. BEKHOUCHE RYM

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DEDICATION

To my parents

The dearest persons to my heart. Thank you

for all your encouragement, and above all

your love.

I dedicate my work to my family.

ACKNOWLEDGMENTS

I wish to express my gratitude to my supervisor

Mr. Laala Youcef for his constant help.

I also wish to thank all my friends for their help.

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teachers.

Abstract

The Critical Period Hypothesis (CPH) originally proposed in Lenneberg (1967), states that there is a maturational period, during which language acquisition can take place. The CPH is often cited to account for differences in success between early and late language learners. Based on Lenneberg's hypothesis, other researchers have generated additional hypotheses, all of which consider a maturational period of time during which language acquisition can take place. This thesis investigates the critical period hypothesis for second language (L2) proficiency from English as a foreign language perspective. It investigates whether it is possible for late learners of English to achieve a native-like proficiency regardless of the starting age or the amount of exposure, also we will investigate whether the variable 'the earlier the better' can influence the ability of L2 learners to obtain better performance. In order to investigate this variable in late L2 learners of English, a group of high school learners with the same amount of exposure to the English language and the French language will be observed in their classroom and see how well they perform a set of tests in both English and French. This paper examines the Critical Period Hypothesis in second language acquisition. Studies assessing learners' native likeness in grammatical features as well as pronunciation are examined for evidence in support of or against the critical period. This paper also evaluates the level of proficiency in third year high school students in English (starting at age of 11) and in French (starting at age of 08). We set to establish that there should be a relationship between age of onset (start of CPH) and better language performance conforming to the features of a critical period and that early second language learners can achieve native like proficiency. To test these hypothesis we tested a group of third year of high school in six activities three in French and three in English in Al Arbi Ben Mhedi high school, and the results showed an advantage in French over English which comes to no surprise when we consider the difference in the starting age of both languages.

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Introduction

The role of the age factor and the existence of a critical period (CP) is a key research area in second language acquisition (SLA) research and, as Hernandez, Ping and MacWhinney point out, “the idea of a biologically determined critical period plays a essential role not just in linguistic theory, but in cognitive science as a whole” (2005, p. 220). Cognitive approaches to and neurobiological explanations of SLA have recently emphasized a distinction between processes interacting in the development of language proficiency in line with the procedural/declarative dimension widely accepted in cognitive science (e. g., MacWhinney, 2005; Paradis, 2004; Ullman, 2001).

According to Paradis, the CPH “applies to implicit linguistic competence. The decline of procedural memory for language forces late second-language learners to rely on explicit learning, which results in the use of a cognitive system different from that which supports the native language” (2004, p. 59). The acquisition of implicit competence is affected by age in two ways: (1) biologically, the plasticity of the procedural memory for language gradually decreases after about age 5; (2) cognitively, reliance on conscious declarative memory increases both for learning in general and for learning a language from about age 7. CP can be “masked to some extent by compensatory mechanisms. To the extent that proficient L2 is sub served by declarative memory, like vocabulary, it is not inclined to the CP,” (Paradis, 2004, p. 60). This hypothesis is further supported by studies on exceptionally successful adult learners, as most of them seem to possess unusual memory capacity (Skehan, 1998, p. 233; Ioup, Boustagui, Tigi, & Moselle, 1994). Later learners compensate by relying more heavily on metalinguistic knowledge and pragmatics (Paradis, 2004).

Statement of the problem

The problem in second language classrooms is the question if it is possible for late learners of second language to acquire and perform in an ideal level of such that is similar to that of native speaker, it at least calls into question the strength of the CPH if not its existence and is learning a wholly unfamiliar language system with different structures, linguistic features and underlying mental concepts a reachable goal for the older learners, and is earlier start of exposure the targeted language can improve the overall competency, for that I am going to observe third year students of high school and their performance inside the classroom as they try to take a test and try to interact in the targeted language.

Significance of the study

A great deal of research has been conducted to test the hypothesis of a critical period in which one must learn a second language before the onset of puberty in order to achieve native-like proficiency. If this putative critical period exists, then the way in which the educational systems are introducing foreign language education needs to be examined. Should bilingual education be the order of the day? This thesis will entail a critical review of studies that have been conducted over the past decade, as well as look at foreign language programs in classrooms, which could be a solution to the implications of the putative critical period for SLA in the context of foreign language education in Algeria.

Aim of the study

This paper examines the Critical Period Hypothesis in second language acquisition. Studies assessing learners' nativelikeness in grammatical features as well as pronunciation are examined for evidence in support of or against the critical period. This paper also evaluates the level of proficiency in third year high school students in English (starting at age of 11) and in French (starting at age of 08).

Research Questions

1. What is the current state of research in regards to the Critical Period hypothesis in Second Language Acquisition?
2. Are Arabic L1 speakers who are late learners of English able to achieve a native-like pronunciation of English? In comparison to the French language which they started it relatively earlier?
3. Would the consideration of the CPH in the Algerian education system improve the student's language mastery?

Hypothesis

- 1) There should be a relationship between age of onset (start of CPH) and better language performance conforming to the features of a critical period.
- 2) Early second language learners can achieve native like proficiency.

Structure of the study

The present study contains four chapters. In the first chapter, we begin with a general overview and introduce the critical period hypothesis. Its definition, the main features which contribute to it, the second will be about bilingualism and cognitive processes involved. The third is a look at the existing linguistic scene in Algeria and the last is an overview of the field work results that were obtained by distinguishing the existence of gap in the performance of the students in French and English.

Methodology

The main investigation in this piece of research is carried out through an observation of the selected samples in their daily classroom activity and focusing on their level of proficiency in forging languages.

In order to test the influence of the critical period hypothesis on the second language acquisition in late learners, a number of Arabic L1 speakers (N=50) will participate in Six tasks, they all had received 7 years of English language instruction (starting at age 11) and 10 years of French language instruction (starting at age 08), they all obtained a total of 12 years of public education.

The participants will receive three tests, in grammar and dictation and oral reading in each English and French. They will be evaluated by the results of the test to assess their language proficiency. And then I will observe the results of the testing as well as the comprehension of the foreign language within classroom interaction (understanding the teacher's questions and responding to them).

The reason why I chose French with English is because they are both considered a foreign language but the difference is that the learners begin their exposure to French in earlier age in comparison to English and thus we can evaluate the effects of the critical period.

CHAPTER I

INTRODUCTION

There are different types of knowledge and skills that must be learned by a certain point in everyone's lives. (Bialystok, 1997, p. 117) This means that after a certain age, these skills can no longer be acquired. Researchers have been conducting studies to see if these same sort of maturational constraints exist in different areas for human beings. This is called the Critical Period Hypothesis (CPH). One area in particular is that of language acquisition. Research has been conducted and is being conducted to look for evidence for or against a critical period in language acquisition in regards to both first language acquisition and second language acquisition (SLA). More specifically, the CPH is a hypothesis that states that there is a critical period in which certain skills must be attained, acquired, or learned. Birdsong defines a critical period as:

...the temporal span during which an organism displays a heightened sensitivity to certain environmental stimuli, the presence of which is required to trigger a developmental event. Typically, there is an abrupt onset or increase of sensitivity, a plateau of peak sensitivity, followed by a gradual offset or decline, with subsequent flattening of the degree of sensitivity (2005, p. 111).

With regards to language the CPH states that human beings must be exposed to a language during infancy and early childhood, prior to puberty. If this does not happen, then the CPH suggests that one would not learn his/her native language fully. (Lightbrown & Spada, 2006, p. 17)

In terms of a second language, it would state that anyone who begins to learn a second language after the critical period has ended should not be able to become native-like in that language. (Reichle, 2010, p. 58)

An Introduction to the Critical Period Hypothesis

The CPH for language acquisition has undergone many changes over time, but was first introduced by Lenneberg (1967). In this hypothesis the phenomenon was described as a neurologically based period, ending around the onset of puberty, which "termination seems to be related to a loss of adaptability and inability for reorganization in the brain, particularly with respect to the topographical extent of neurophysiological processes."

(p. 179). As such, Lenneberg argued that it is impossible for a person to learn a second language (L2) with a native-like proficiency after the start of puberty. Based on Lenneberg's hypothesis, other researchers have generated new hypotheses, all of which consider a maturational period of time during which language acquisition can take place. Examples of such generated hypotheses include, for example, variants containing separate critical periods for specific language skills, such as proposed by Flege et al. (1995). Much research has been dedicated to this topic and evidence from a variety of disciplines has been proposed to account for the observed differences in language acquisition between children and adults, such as Penfield and Roberts (1959), Lenneberg (1967), and Flege (1995).

Based on observational arguments (i.e., generally lay perceptions) and those from the field of neurobiology, the Lenneberg (1967) version of the CPH states that the process of "such as Penfield and Roberts (1959), Lenneberg (1967), and Flege et al. (1995).

Lateralization of language functions is responsible for the difference in language attainment between children and adults. During the process of lateralization, specific areas of the brain, such as Wernicke's and Broca's areas, become specialized in specific language functions.

Once set, these language functions cannot be performed by alternate areas of the brain.

Lateralization is generally believed to take place around the onset of puberty (Lenneberg 1967), so that, if damage to areas of the brain takes place after puberty has set in, other areas cannot take over the language functions and knowledge and/or skills will be permanently lost. In contrast, other researchers, such as Penfield and Roberts (1959), suggest that if children experience damage to language-governing areas of the brain before lateralization is completed, linguistic functions are generally taken over by different areas of the brain so as to maintain the knowledge and skills available.

More recent evidence from the field of neurobiology considers the process of myelination as a possible underlying cause of the discrepancy in language attainment between early and late learners. Myelination, according to Pulvermuller and Schumann (1994), takes place when glial cells cover the axons of neurons with a fatty sheath, making it easier for the axon to receive nutrition and to function more efficiently. As a result of this process, however, the neural connections become so efficient that it becomes more difficult for the axons to make new connections with other available dendrites, a process that is essential for both first and second language acquisition. Although the precise relationship between myelination and an increased difficulty for

neurons to make connections has not yet been determined, it seems to be important. An increase in myelination has also been observed to co-occur with a decrease in plasticity of the brain. The plasticity in the areas of the brain that are concerned with specific language functions is gradually reduced until around puberty. After puberty, plasticity is reduced and is thought to negatively correlate functions.

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Pulvermiiller around puberty. After puberty, plasticity is reduced and is thought to negatively correlate with age, so that it is more difficult for adult brains to respond as quickly as the brains of early language learners (Pulvermuller & Schumann, 1994).

A third source of evidence for the existence of a critical period for language acquisition can be found in the development of language in feral children. Cases such as Genie (Curtiss, 1977), and Victor (Itard, 1962) suggest that in late first language acquisition, it is extremely difficult, if not impossible, for language learners to reach a native-like attainment. Research on late first language acquisition in hearing adults is rare and generally concerns circumstances in which subjects are deprived of more than just language attainment. In the case of Genie, for example, the subject of research was exposed to extreme deprivation and abuse. Her failure to fully attain a native-like proficiency in a first language after close practice is often used as evidence for the idea of a critical period; however, given her background it could be argued that there may be different causal factors that account for her inability to obtain a native-like first language proficiency. Instead of considering a critical period as the cause for her inability to attain English, factors such as severe emotional trauma or developmental difficulties should be considered as well in finding an explanation for Genie's limited level of attainment in first language acquisition.

Due to the nature of research on late first language acquisition in hearing adults, results cannot safely be generalized to other situations and, as such, cannot in themselves prove the existence of a critical period for language acquisition.

As evidence from the language attainment of feral children suggests, first language acquisition can follow particular patterns that cannot be found in second language acquisition, as second language learners have necessarily obtained a first language prior to or during their immersion in a second language (as in the case of bilingualism in early learners).

As such, evidence from situations of language deprivation used in the formation of a critical (pulvermuller & tard, 1962) cannot safely be generalized to other situations and, as such, cannot in themselves prove the

existence of a critical period for language acquisition. The critical period hypothesis for first language acquisition cannot be used to postulate theories on the development of second language acquisition as they are built upon contextual factors that are necessarily impossible in situations of second language acquisition.

Another source of evidence for a critical period can be found in studies on deaf individuals. These studies provide more tangible evidence for the existence of a critical period. Such studies have, for example, shown that late acquisition of sign language generally takes place more effectively if students have already been exposed to a spoken language, prior to their loss of hearing, at an early age.

Lenneberg (1967) postulates in more detail that if children are exposed to sign language instruction for a minimum of one year before losing their hearing, they can attain a high level of sign language proficiency much more successfully than if they are first exposed to it in adulthood. Mayberry (1993), similarly, investigates the difference in language acquisition between late first language learners and late second language learners of American Sign Language (ASL). She finds that after using ASL for an average of 50 years, late second language learners of ASL generally outperform late first language learners of ASL on a number of different tasks. When compared to early first language learners of ASL, late second language learners perform remarkably similar, especially on measures of syntax, suggesting that it is still possible for late learners to acquire a native-like ability in a second language if given enough practice.

Based on this evidence, the CPH- in its many forms- can be argued to be of interest for the field of Second Language Acquisition (SLA), as it attempts to account for the complex nature of the level of L2 attainment. Verification of the CPH would provide further evidence for the theory of Universal Grammar and the question of access in second language acquisition (Ellis, 1994). Counterevidence for the existence of a critical period consequently, could suggest limitations on access to Universal Grammar in SLA. If the CPH were to be outperformed, further seriously questioned, theories of Universal Grammar and the innate capacity for language learning would have to be reconsidered and different theories on language development would have to be posed to account for the difference in language acquisition between adults and children.

Although considerable research has been dedicated to finding evidence both for and against the existence of a critical period, no clear-cut answer has been finalized. At present, according to Long (2007), there are over 100 empirical studies on the topic of maturational constraints on language acquisition, but no consensus has been reached on the "existence, scope, and timing of putative maturational constraints on the human language learning capacity as well as on implications for practice." (p. 46). Further evidence is needed to conclusively eliminate a number of hypotheses, so as to enable the evidence-based formation of a single theory on language acquisition.

Types of Hypotheses

It should be noted, here, that different types of critical period hypotheses are formulated for both first and second language acquisition, but that, for the purpose of this dissertation, only those types of hypotheses for second language acquisition will be considered throughout the rest of this work. A number of different hypotheses concerning maturational constraints on language learning have been proposed. Although the content of specific hypotheses differs with regard to their scope, or the skills that are affected by maturational constraints, and their timing, or age at which maturational constraints are most potent (Long, 2007), discussing each of them is beyond the scope of this project. They can, however, be divided into the following types of hypotheses:

The main form of The Critical Period Hypothesis:

The term 'Critical Period Hypothesis' is generally used to refer to a type of hypothesis that argue for a specific cut-off point in age after which it is impossible for language learners to obtain a native-like proficiency in a second language. Also referred to as the 'Maturational State Hypothesis' (Long, 2007), theories in this category assert a genetically inherited, language acquisition capacity [which] operates only within a genetically determined period, and no later, whether or not exercised during that period." (p. 48).

Proponents of this type of hypothesis, thus, believe that language learners can only obtain full proficiency in a language within a certain, specified period, and that after this period, language learners will either not be able to obtain a language at all, or will, at best, have a detectable foreign accent in the language at question.

The Critical Period Hypothesis, or 'Maturational State Hypothesis', for second language acquisition, specifically argues that regardless of the onset of first language acquisition, fluency in a second language cannot be obtained to a native-like extent if it takes place after a specified age. Although theories differ as to the precise age at which this ability to acquire a second language ends, they assert that adults will necessarily be less successful acquirers of second languages than children. This hypothesis supports the common sense belief of 'earlier is better' for the purpose of second language learning and, as such, have gained much support and interest.

Several studies, however, such as Bongaerts et al. (1995), have measured native-like levels of language proficiency by non-native speakers who have acquired a second language after the close of proposed critical periods. These studies provide evidence against the Critical Period Hypothesis in its strong form.

The Exercising Hypothesis

A second type of critical period hypothesis can be found in the so-called 'Exercising Hypothesis' (Long, 2007). This type of hypothesis suggests that "once used, or exercised, within the genetically determined period, the language acquisition capacity is available, undiminished, for life."(p.47). As such, individuals who start the acquisition of a first language during a developmentally based, predetermined period, will benefit from their efforts any time after this predetermined period has ended. This type of hypothesis asserts that late first language learners will necessarily perform worse than both early first language learners, early second language learners, and late second language learners.

Based on this hypothesis, adult and child language learners have the same potential in acquiring a second language if the specific language capacity is exercised prior to a genetically predetermined period. As such, this type of hypothesis fails to account for the difference in second language attainment that is often witnessed between children and adults as it does not leave any possibility for these differences to be observed. According to this hypothesis, there should not be an observable difference in second language attainment between early and late learners as both types of learners have exercised their language capacity for their first language, so that it should be available to the same extent for both types of learners. As pointed out in Krashen, Long, and Scarcella (1979), however, adults may have an initial advantage in cognitive development over children, but younger learners generally outperform adult learners in second language acquisition where ultimate attainment is concerned. According to the exercising hypothesis, this should not be possible as both early and late second language learners have the same access to their language capacity. The 'Exercising Hypothesis' has, consequently, often been rejected based on its inability to account for specific differences in the second language acquisition of children and adults.

The Sensitive Period Hypothesis

The 'Sensitive Period Hypothesis', which argues for the existence of a sensitive period, as opposed to a critical period, to account for language acquisition can be considered a third type of critical period hypothesis. The Sensitive Period Hypothesis, thus, argues that there is a single developmentally-based predetermined period during which it is much easier for humans to attain proficiency in a second language (Long, 2007). This type of hypothesis, thus, does not argue that it is absolutely impossible for an individual to attain native-like or advanced proficiency in a language when commencing their language acquisition after the sensitive period is ended, it merely states that when started during a sensitive period, individuals can attain language proficiency with greater ease due to maturational constraints. Although specific theories differ as to the timing of this sensitive period, proponents of the Sensitive Period Hypothesis assert that it is necessarily more difficult for adults to obtain advanced proficiency in a language than it is for younger learners, which, again, supports the

mainstream idea of 'earlier is better', for the purpose of language learning, though in this case, later is not necessarily impossible.

Evidence against this type of CPH is hard to establish, considering the fact that the Sensitive Period Hypothesis does not argue against the possibility of language acquisition after a sensitive period has ended, but instead mainly suggest that it is necessarily more difficult for late learners to acquire language proficiency than it is for early learners. Unless large numbers of late language learners are found who have obtained native-like proficiency in a language while having commenced their language acquisition after the proposed sensitive period has ended while, at the same time, large groups of young language learners are identified who have failed in the native-like acquisition of a second language, it seems as though this type of critical period hypothesis cannot be challenged. Although some studies, some of which will be discussed below, have aimed to do precisely this, it is difficult to establish whether their results truly disprove the Sensitive Period Hypothesis per se or whether they simply point at the necessity for specific theories on the Sensitive Period Hypothesis to reconsider their views on the matter of timing.

The Multiple Sensitive Periods Hypothesis

In addition to the Sensitive Period Hypothesis discussed above, there is also a type of CPH that includes multiple sensitive periods for language acquisition. The Multiple Sensitive Periods Hypothesis generally argue for a domain-based separation of sensitive periods during which particular components of language acquisition can occur with ease. Although theories differ as to the timing of each sensitive period, most distinguish separate periods for at least the following language domains: phonology, morphology, and syntax. The Multiple Sensitive Periods Hypothesis, thus, argues that there is a developmentally-based predetermined period of time during which language acquisition in each of the domains can take place with ease and that these periods of time can be different for each component. The sensitive period for morphology, could, thus, have an earlier onset than that of syntax, and the onset for phonology could, likewise, precede that of morphology (Long, 2007).

Although the Multiple Sensitive Periods Hypothesis distinguishes multiple periods during which particular language components can be obtained, it does not assert that it is impossible for individuals to attain fluency in these language components if language acquisition is commenced after the proposed sensitive period, it merely suggests that acquisition is more likely to result in a native-like proficiency if it is started before the end of the sensitive period in question.

Even though particular theories on the Multiple Sensitive Periods Hypothesis differ as to the timing of specific sensitive periods, they postulate that it is necessarily more difficult for late learners to acquire language proficiency than it is for early learners, as early learners engage in the process of L2 acquisition during this

predetermined maturational period and late learners do not. This supports the mainstream idea of 'earlier is better' for the purposes of language learning, though, in this case, later is not necessarily impossible.

Evidence against the Multiple Sensitive Period hypothesis, thus, is hard to establish, considering the fact that the existence of multiple sensitive periods does not argue against the possibility of language acquisition after a sensitive period has ended, but mainly attempts to account for differences in ease of acquisition between early and late learners.

Based on a predetermined maturational period, it is necessarily more difficult for late learners to attain a native-like proficiency in a second language than it is for early learners as early learners engage in the process of L2 acquisition during this predetermined maturational period and late learners do not.

Similar to the case of the 'simple' Sensitive Period hypothesis, it is extremely difficult to disprove the existence of multiple sensitive periods for language acquisition as 'ease of acquisition' can be defined in many different ways, depending on factors such as, for example, speed or success. Unless large numbers of late language learners are found that have obtained native-like proficiency in specific components of a language while having commenced their language acquisition after the proposed sensitive period for the component in question has ended while, at the same time, large groups of young language learners are identified who have failed in the native-like acquisition of such second language components, it seems impossible to argue that there could not be any developmental predetermined periods during which it is easier for individuals to obtain specific components of a second language. Although some studies, some of which will be discussed in the next section, have aimed to do precisely this, it is difficult to establish whether their results provide counter evidence to disprove the existence of multiple sensitive periods per se or whether they simply point at the necessity for specific theories on the Sensitive Period Hypothesis to reconsider their views on the matter of timing.

Recent Research on Late Beginners: Can Adults Attain Native-like Proficiency?

A number of recent studies on the age factor have inquired into adults' ultimate attainment. Differences between early and late-start programs in immersion and foreign language contexts have also been explored. Research on ultimate attainment was called for by Long (1990) and a number of recent studies explore whether native proficiency is available to learners starting SLA after the CP. Over the last few years, this research question has inspired several empirical studies aiming to challenge the strong version of the CPH by identifying highly proficient adult learners of an L2 who started SLA after the CP and are indistinguishable from native speakers. These new studies go beyond the scope of traditional inquiries into the age factor as they triangulate their data and apply mixed research methodology: although some studies use grammaticality judgment tests following Johnson and Newport's (1989) seminal study, they combine formal tests of competence with measures of performance. After testing post-puberty learners, authentic speech samples are used in tests for native speakers to pass a judgment on adult nonnative speakers. Other recent inquiries combine interview data and self-assessment with performance measures (Bongaerts, 1999; Bongaerts, van Summeren, Planken, & Schils, 1995, 1997; Marinova-Todd, 2003; Moyer, 2004; Nikolov, 2000a; Urponen, 2004). An important development in these studies relates to the variety of first and target languages: successful post-puberty learners of L2 English, German, and Hungarian were involved speaking over 30 languages as L1, for example, Bulgarian, English, Farsi, Finnish, French, Hungarian, Russian, Slovak, and Ukrainian, among others (Marinova-Todd, 2003; Moyer, 2004; Nikolov, 2000a; Urponen, 2004). Five studies are examined: in three projects the target language was English, whereas in two others participants learned Hungarian and German.

The profiles of 30 post-puberty learners of English from 25 countries and speaking 18 languages were examined by Marinova-Todd (2003). A control group of 30 native speakers with matched academic backgrounds was also involved in her study. Data were collected with the help of a number of formal tests and a narrative task. Formal tasks included a previously validated grammaticality judgment test, sentence comprehension tests, a standardized vocabulary test, a discourse completion test, reading out a paragraph, and spontaneous speech (Frog story with visual prompts) to evaluate pronunciation and fluency. Nonnatives performed on a significantly lower level than the control group of native speakers on measures of pronunciation, vocabulary size, grammatical knowledge, and narrative skills, whereas no significant differences were found in semantic comprehension and on the discourse completion task. Two of the participants were judged to have indistinguishable accent from native speakers, and an additional six performed within the native range in spontaneous speech. Three main profiles emerged for highly proficient late learners: (1) Three women, married to native speakers of English, attained native level across all domains. (2) Two participants (also married to native speakers of English) were within native range on all measures, but in receptive vocabulary. (3) Three other women achieved similarly high scores on all tests, but they failed on both measures of

pronunciation. None of them lived with native speakers of L2.

Urponen (2004) studied a large group of Finnish women (N=104). The majority of participants had learned English as a foreign language (EFL) prior to moving to the U.S. or Canada and marrying native speakers of English. Data were collected by a grammaticality judgment test and interviews. On the test 38 per cent of the participants were indistinguishable from the control group of native speakers.

The best significant predictors of native proficiency included age when the study of EFL began, education in the host environment, and length of exposure, but not age on arrival. However, the group of youngest age on arrivals (12-15 years) outperformed later arrival groups. On the whole, participants' performance did not decline with their aging. The length of exposure in years did not predict ultimate attainment, as its relationship with grammaticality judgment test scores was reshaped and the advantage gained from the study of EFL was noticeable even after decades of exposure to English in the host environment. The test scores declined as the participants' age on arrival and the age of starting EFL study increased. As for similarities and differences between the highest-scoring and lowest-scoring participants, the top achievers had studied more EFL before age of arrival in the U.S. and had more years of education both in Finland and in the host environment, read more, and focused more on both their accuracy and communication skills than participants with low scores.

Two parallel studies were conducted involving late starters of L2 English and Hungarian by Nikolov (2000a). Participants in the first study were 20 adults learning Hungarian; all of them started learning the target language as young adults in Hungary. The second study involved 13 Hungarians all of whom started English at the age of 15 in secondary school and some of them studied one or two semesters abroad as young adults. Both studies involved control groups of native speakers.

Data were collected with the help of three instruments: (1) participants' background was explored with the help of structured interviews, (2) in a narrative task they were asked to describe an embarrassing moment in their life or a happy moment they remembered with pleasure; (3) they read out an authentic passage in the target language. Three groups of judges (13-year-old children and two groups of adults) were involved in deciding whether the speakers who had been audiotaped, were native or nonnative speakers of English and Hungarian respectively and why. From among the 20 learners of Hungarian, two were generally, and four were often mistaken for native speakers by the Hungarian judges. In the study involving 13 Hungarian speakers of English one was generally, and four others were often mistaken for native speakers by native judges. As a general strategy, judges used fluency, intonation, and content as clues. Children considered the lack of fluency, false starts, paraphrasing and hesitation as the most important indicators of nonnative speakers, whereas adult judges focused more on content. Similarly to these findings, lack of self-confidence was one of the indicators of a non-

native speaker in the study conducted by Marinova-Todd (2003).

Moyer (2004) studied not only the language proficiency of 25 successful well-educated immigrants to Germany from Britain, France, Poland, Russia, Slovakia, Turkey and the U.S., but she also explored how their ultimate attainment was influenced by their opportunities and intentions, thus integrating quantitative and qualitative data. Three sets of instruments were used for data collection: (1) a questionnaire surveying biological-experiential, social-psychological, instructional- cognitive, and experiential-social experiences; (2) controlled and semi-controlled production tasks (reading out words, a paragraph, spontaneous speech on an important or embarrassing situation, recital of short sayings or proverbs); and (3) semi-structured interviews. Speech samples were judged by three native speakers on a 1 to 6 scale. Performances on the reading tasks turned out to be the least reliable indicator of proficiency in German (similarly to other studies: e.g., Marinova-Todd, 2003; Nikolov, 2000a), whereas natural speech production was found to be the most reliable (in line with results in other studies using similar methodology: e. g., Bongerts et al., 1995, 1997; Marinova-Todd, 2003; Moyer, 2004; Nikolov, 2000a). Raters were given space to write comments; the majority of these related to phonological criteria, but many referred to word choice. According to Moyer's findings, the directness and independence of age effects were weaker than suggested by earlier studies. Age on arrival and length of residence exerted similar influence on ultimate attainment, whereas psychological factors (personal interest in improving fluency and satisfaction with attainment) accounted for 74 per cent of the variance in attainment, offering a stronger prediction than that offered by a combination of age on arrival and length of residence. Based on the findings, quality of access to L2 and experience with L2 are operationalized along four criteria (1) duration (length of residence, instruction, contact); (2) quality of experience (formal and informal contexts, types of feedback and instruction, motivation; (3) consistency over time; and (4) intensity or extent of orientations (motivation, intention to reside, identity, sense of self in the L2 community and in the L2) (Moyer, 2004, p. 144).

These recent studies on successful adults' ultimate attainment go beyond the traditional CPH research methodology and debate: they tap into a number of variables, involve a range of first languages, apply tests of performance, and take into consideration different "opportunities afforded to individual learners" (Moyer, 2004, p. 147) and the extent to which they wish to be taken for native speakers. An important finding relates to the status and perception of languages, because learners' first language and culture and the L2 and culture also exert an influence on ultimate attainment: in Moyer's (2004) study an American participant learning German, and in Nikolov's (2000) research three Russian wives and a British woman learning Hungarian did not want to pass for L2 native speakers, for they considered their accent to be an integral part of their identities and their culture of

higher prestige. These findings are in line with what Moyer (1999, p. 98) found in her previous study in which few successful advanced learners of German wanted to sound native or even to improve their phonology. On the other hand, a Ukrainian speaker of German (Moyer, 2004), and a young Russian entrepreneur and a Bulgarian actress speaking Hungarian (Nikolov, 2000) did not wish to be identified by their accent and worked on their language development consciously.

These case studies document that all the post-puberty learners who were frequently mistaken for native speakers definitely strived for unaccented proficiency, similarly to participants in previous studies (Bongaerts et al., 1997; Ioup et al., 1994). These successful language learners shared intrinsic motivation in the target language, were proud and conscious of their achievement and worked on their language proficiency actively through finding opportunities for communicating with L2 speakers and reading and listening extensively. For many of them, the target language was either part of their profession or they had very strong integrative motivation to become genuine residents of L2 society. Intensive phonetic training in British English was hypothesised to contribute significantly to Dutch adults' ultimate attainment (Bongaerts et al., 1997, p. 463), whereas this was not typical in the studies overviewed above, as conscious training was available only to a few participants. Intensity of language use is an important factor in native-like proficiency: in studies on successful adult learners complete immersion in the host environment (in many cases in the form of marriage to a native speaker) for an extended period of time has been found to be conducive to native proficiency. Although accent is seen by some experts as the least important aspect of L2 proficiency and speakers who fail to achieve native-like accent lose nothing important (Cook, 1995), others, for example, Bongaerts et al. (1995) found that native speakers may avoid further interactions with speakers of heavy accents and argue for the importance of accentless proficiency.

Early Foreign Language Programs

The last 15 years have seen an enormous worldwide increase in early FL instruction. The publication of state-of-the-art reviews (e.g., Johnstone, 2002; Kubanek-German, 1998; Nikolov, 2002a; Rixon, 1992) and studies focusing on international comparisons of early FL programs (Nikolov & Curtain, 2000) as well as conferences, special interest groups, workshops and special examinations designed for young learners all indicate that despite the “questionable impact” (DeKeyser & Larson-Hall, 2005, p. 101) of CPH-related discussions, there is an enormous interest—and a huge market. In this section we discuss the most important issues emerging from recent sources (e.g., Blondin, Candelier, Edelenbos, Johnstone, Kubanek-German & Taeschner, 1998; Edelenbos & Johnstone, 1996, Moon & Nikolov, 2000) exploring early language instruction

practices all over the world. On the whole, it can be stated that although the educational contexts and conditions of early programs vary to a great extent and despite the worldwide spread of teaching foreign languages, most importantly English, to young learners, very little research has been published.

Most countries accept the folk wisdom and findings from L2 contexts without considering questions like the amount and quality of exposure to L2, teachers' competences and motivation, classroom methodology, and continuity of programs. The trend documented in recent European statistics is typical of contexts where parents' instrumental motivation for their children to study English as a global language is strong indeed. In these contexts compulsory foreign language education tends not only to start at an increasingly early stage but also to last longer (Edenlebos & Johnstne, 1996, *Key data on teaching languages at school in Europe*, 2005). In addition to these trends, because English is overwhelmingly favored, in Europe the study of a second FL is added to language policy recommendations (*Common European Framework of Reference*, 2001).

Earlier start programs are often introduced through pilot projects aiming to prepare ground for the integration of modern languages on a larger scale. For example, ten European countries reported a pre-primary or primary pilot project in the 2002/03 academic year (*Key data on teaching languages at school in Europe*, 2005), whereas many other countries simply launch programs without official piloting on parental demand. When, however, educational policy fails to keep priorities on the agenda and project money runs out, as has been the case, for example, in Austria (Jantscher & Landsiedler, 2000), Croatia (Mihaljevic Djigunovic & Vilke, 2000), Italy (Gattullo, 2000), and Scotland (Blondin, et al., 1998), FL teaching becomes part of routine and the initial enthusiasm and professional quality declines. In most empirical studies, experimental programs with enthusiastic teachers produce good results (e.g., Moon & Nikolov, 2000); but when programs become more widely spread, there is less research and often funding is also withdrawn. No studies are available on why, if any, programs fail. Most studies apply cross-sectional design, testing techniques (often inappropriate for the age group) vary, and classroom observations are hardly ever used (Nikolov, 2002a).

Target Languages: Modern Foreign Languages in General versus English

Early programs tend to be run in a number of languages but the proportion of English has been increasing extremely dynamically worldwide. Presently, in the overwhelming majority of countries, English is widely taught, despite some heated debates, for example, in Switzerland (Fretz, 2000) and Belgium (Housen, 2000), while in Australia, Croatia, Ireland, or the USA (Curtain & Dahlberg, 2004; Harris & Conway, 2002; McKay, 2000; Mihaljevic Djigunovic & Vilke, 2000) a range of languages has been offered. In some countries the L1 of immigrant children is also offered: for example, Turkish and Italian in many German schools (Kubanek-German, 2000). The most important recent trend, however, is to offer English to more, or all, and younger learners: for example, according to ministry statistics in Japan, more than 90 percent of public elementary

schools offered English language activities in 2004 (Nakamura, 2005) as a result of parental pressure. This overall enthusiasm towards early instruction in English is creating needs in teacher education and materials; thus, teaching EFL to young learners has developed into a huge business in the private sector (for example, in China, where the majority of children take on additional EFL classes at cram schools).

Access to early start programs varies from context to context. In many European countries where public education has provided all young learners with opportunities to study EFL and transfer to the secondary level is also smooth (for example, in the Scandinavian countries or in the Netherlands), an early start is the norm, the overwhelming majority of the population achieve useful levels of proficiency, and Council of Europe language policy documents recommend two foreign languages to allow students to study another language besides English. However, in countries where provision of early English has been increasingly seen as a key to success in the long run, but access to it is limited, starting early has become entangled with equity issues. Better education means earlier access to good quality EFL instruction for the advantaged. In Hungary, for example, a significant difference has been found between nationally representative samples of English and German children's cognitive abilities: learners of English tend to be more able (Csapo & Nikolov, in preparation). The best predictor of achievements on proficiency tests in these two languages is learners' socioeconomic status reflected by parents' level of education (Jozsa & Nikolov, 2005). In Croatia, where a wider choice of modern languages was welcome in lower primary classes in the mid 1990s, parents whose children were placed in German classes in 2003, organized protests upon the mandatory introduction of a FL in grade 1 (age 7); they wanted them to study English.

An early start of English as a global language may also be seen as a threat in other contexts: for example, recently in the Arab world and the Asia-Pacific region xenophobic (having or showing a dislike of or prejudice against people from other countries) fears have emerged. As several presenters in sections on World Englishes claimed at the 39th TESOL Convention (2005), English is increasingly seen as a vehicle of globalization and its spread may not only corrupt young children's minds, but it also threatens their L1 literacy and identity.

Individual Differences

Young children are assumed to be more similar to one another than adolescents and adults; they are expected to succeed without difficulty, and fewer individual differences are expected among them. Due to limited access, however, some sort of selection and streaming is often implemented, although typically almost nothing is said about the criteria and the process. Criteria often concern learners' school achievements, aptitude, and socioeconomic status. Research in European countries provides insights into these areas. In contexts where not

all learners are placed in early FL programs, placement is arranged mostly on parental demand. Research has revealed that in Hungary, for example, 5 per cent of the students, mostly Roma, are never given an opportunity to learn any FL (Nikolov, 2000b) formally because of learning disabilities, but the reason is that village schools do not offer early L2 instruction and when pupils transfer to an upper grade in a bigger school, they lag behind their peers. In contrast, in Germany a number of pupils with learning difficulties get early foreign language instruction geared towards their needs (Kubanek-German, 2000).

Learners' socioeconomic status and parental support are rarely addressed explicitly, although in contexts where the private sector offers early programs, socioeconomically advantaged children's parents are more able to afford them. The aptitude of young learners is a generally under-researched area. Children are expected to develop basic interpersonal communication skills easily, but cognitive academic language proficiency is also necessary in the long run to be able to use L2 literacy skills.

Gate keeping and streaming are sometimes based on learners' abilities along the claim that early FL instruction is not for everyone, but for the more able only.

For example, in a Slovakian project (Farkasová & Biskupicová, 2000) involving over 1,700 first graders (age 6) learning one of three FLs (English, German, French), pupils were selected on the basis of tests of school readiness, verbal, and nonverbal abilities. Successful learners achieved significantly higher scores on the nonverbal intelligence test than unsuccessful learners, whereas the latter had more neurotic tendencies and made perception mistakes. As for their family background, parents of successful learners were better educated, used foreign languages more frequently, and more actively. Also, they offered their child more active support (e.g., practiced and revised material taught in school) than parents of unsuccessful children. The study concluded that because of differences in cognitive abilities and emotional balance, not every child is ready to start a FL at 6.

Two recent studies examined how young Hungarian learners' abilities contribute to their achievements in EFL at the age of 12. In a context where the tradition of streaming is strong and EFL tends to be provided for the more able learners, in a study involving over 400 learners from 10 schools, 22 per cent of the variation in English performances was explained by their aptitude (Kiss & Nikolov, 2005). In a large-scale study on nationally representative samples of over 10,000 learners of English (age 12) learners' scores on an inductive reasoning test predicted 14 per cent of the variance in their performances on reading tasks (Csapo & Nikolov, 2002).

Attitudes and motivation have also been explored in some contexts, because one of the arguments for an early start is to develop children's positive attitudes. It is widely assumed that early foreign language instruction

will, as a rule, contribute to children's favorable attitudes. There are counter examples from recent history, for example from Eastern European countries where, although Russian teaching started early (at age 9), negative attitudes also emerged at an early age. As for more recent examples, a lack of motivation has been observed in the case of Austrian pupils after the compulsory introduction of early English instruction (Jantscher & Landsiedler, 2000). Several other studies combined enquiries into linguistic and psycholinguistic outcomes. A longitudinal Croatian study (Mihaljevic Djigunovic, 1993; 1995) explored learners' attitudes and motivation in various languages on a large sample over an extended period of time. The longitudinal results showed that young learners' initial motivation was closely dependent on their attachment to the teacher, while as they progressed in the FL both instrumental motives and liking the FL as such became important. The main finding, however, is that FL learning motivation was maintained and often enhanced during the eight-year period. This and another longitudinal study that extended over 18 years exploring the development of Hungarian students' attitudes and motivation (Nikolov, 1999) have shown that the most crucial motivational factors function on the classroom level: the teacher's role is extremely important, together with intrinsically motivating and cognitively challenging tasks tuned to learners' age and level.

A large-scale Irish project (Harris & Conway, 2002) involving one of four FLs (Italian, Spanish, German and French) from grades 5 and 6 pointed out the importance of both interest and ability for listening comprehension, and stressed adverse effects of difficulty with either the FL or any of the main school subjects on overall linguistic and communicative competence.

Finally, there is not enough empirical research on how children interact with their peers and their teacher while doing tasks appropriate for their age. Good examples of how teachers and peers can scaffold pupils learning are hard to find.

Early versus Later Start

Two carefully designed and documented longitudinal projects have been implemented in Spain in recent years. Both projects explore early and later introduction of EFL into the school curriculum of bilingual (Catalan-Spanish; Basque-Spanish) learners. The Barcelona Age Factor (BAF) Project (Munoz, in press) started in 1995 and involved 2,068 participants. It aimed to find out whether age has an effect on the rate of FLL, whether older learners surpass younger learners the way they do in natural SL context, and how age affects different language areas during FLL. Data were collected after 200, 416, and finally after 726 hours of instruction. Measures were tests of speaking, listening, writing, and reading in EFL, two tests measuring comprehension in L1 (Spanish and Catalan) and a questionnaire. Some tests were discrete point, other were

integrative skills tests. Several of the measures (e.g., oral interview and role-play) were meaning-focused tests. The results of the project indicate that earliest beginners showed the highest rate of learning in the last third of the followed period (that is, between 416 and 716 hours of instruction), the middle young beginners (age 11) progressed fastest in the second third (between 200 and 416 hours of instruction), while adolescent beginners showed fastest initial rate of learning in the first third of the period (after 200 hours). For those starting at ages 8 and 11 the rate of learning became salient at the age of 12. In terms of younger beginners' surpassing older beginners, Munoz concludes that, in the FLL context, younger children need a longer time than younger beginners in the SL context. After nine years of learning EFL, the difference in scores on tests implying implicit learning (e.g., listening comprehension) got smaller. Thanks to the fact that the BAF Project followed language learning in a FL context for a longer period of time than the studies focusing on natural SLA, the insights have lead Munoz to a different prediction about the long-term age effects. She, thus, predicts that differences between younger and older beginners will disappear once, given the same time and exposure, they reach the same state of cognitive development.

Basque-Spanish speaking EFL learners were involved in the other project following beginners from the ages of 4, 8, and 11. The research design was parallel with the other longitudinal study (Munoz, in press) and the outcomes document similar findings: on a number of performance measures, including oral and written perception and production tasks, older beginners achieved significantly higher scores than younger learners (Cenoz, 2003; Garcia Lecumberri & Gallardo, 2003; Garcia Mayo, 2003; Langabaster & Doiz, 2003; Munoz, 2003). Two points need to be mentioned: (1) In these groups the same tests were applied for the sake of comparability (Munoz, 2003, p. 167), thus, it is not known how learners would have performed on tests more tuned to their levels. (2) Assessments of the quality of teaching including teachers' proficiency pronunciation and classroom methodology were not included in any form. As Garcia Lecumberri, and Gallardo word the dilemma, all teachers were nonnative speakers of English, but "for obvious reasons, this can be a sensitive issue, which we have not been able to address yet" (2003, p. 129).

The eight-year Croatian project of early FLL (Mihaljevic Djigunovic & Vilke, 2000) included over 1,000 first graders (age 6-7) learning four foreign languages (English, French, German, and Italian). The aim was to find the optimal starting age at which the FL should be introduced in the primary school curriculum. In pursuing this aim, the project focused on characteristics and abilities of first graders, analyzed teaching quality (with a specific focus on teacher characteristics) and selection of language materials (in terms of content and linguistic structure), and followed the participants' FL development over eight years. Some investigations were conducted with all the four languages, some only with EFL. Control groups were also involved (beginners starting in year 4, at age 10-11, the official start at the time). The main characteristic of the Croatian project was that the

intensity of exposure to the FL, the language content and activities were such that they approximated conditions available in natural SL contexts. Oral interviews, questionnaires, classroom observations, and story-telling recordings as well as proficiency tests were used to collect data. Studies carried out during the eight years showed that young learners were developing fast at the phonological level (Kovacevic, 1993); they mastered prototypical language elements faster than other parts of language (Vilke, 1995), and along with their linguistic development a number of learning and communication strategies also emerged (Kovacevic, 1998; Mihaljevic Djigunovic, 2001). In a final evaluation at the end of year 8, results of project learners were compared with those of the controls. Project students were significantly better at pronunciation, orthography, vocabulary and a C-test, but only slightly better at reading. Project learners were not much better at tests that tapped explicit knowledge of the grammatical system (e.g., gap-filling of sentences without a wider context) but outperformed the controls on the C-test, which tapped implicit knowledge of English. As for their oral skills, results of an unstructured interview with EFL learners showed, overall, a high level of communicative competence. However, significant variability could be observed among the four EFL project groups. Mihaljevic Djigunovic and Vilke (2000) attribute this to the inadequate teaching EFL learners were exposed to when their appropriately trained teachers left the project and were replaced by new teachers. The longitudinal study showed that in the Croatian socioeducational context, 6-7-year-old beginners outperformed later (10-year-old) beginners if some basic conditions were met. These refer exclusively to the quality of exposure, which in the FL context is dependent on the quality of teaching.

A recent international project looking into levels of achievement of year 8 EFL learners in Croatia and Hungary (Nikolov, Mihaljevic Djigunovic & Otto, in preparation) showed that earlier starters were significantly better at all measures (meaning-focused tests on the four language skills, and on pragmatics) than later starters. The same was found in a large-scale Croatian national project that followed a similar design but included also year 12 EFL learners: earlier starters outperformed later starters on all measures (Mihaljevic Djigunovic, in preparation). The relationship between an earlier start and outcomes, however, is modest in both contexts. As for the relationship between starting English and German, a nationally representative study of Hungarian learners found that in the case of 12-year-olds, the time of start explained only 3 per cent of variance for both languages, whereas the best predictors were learners' socioeconomic status and number of weekly classes.

Continuity and Transfer

Educational history repeats itself, as a lack of continuity is often typical in early start FL programs similarly to the “French in the Primary” report in Britain (Burstall, Jamieson, Cohen & Hargreaves, 1974): transfer from early programs is problematic in many countries from Poland to USA, and from Hong Kong to Canada (Nikolov & Curtain, 2000), because continuity is not always ensured. Continuity is lacking in different areas: learners cannot continue the FL they learned in primary years, classroom methodology is form-focused, and programs fail to integrate what children already know and are good at. Hardly any research has looked into how secondary schools build on learners’ level of L2. In a qualitative study on 94 unsuccessful adult FL learners’ school experiences, all of whom had studied a FL for 5-9 years in the primary school, 59 were placed in beginners’ groups in secondary schools in Hungary and in the long run they failed to benefit from early exposure (Nikolov, 2001).

A lack of continuity of support and ownership is also typical. Case studies on a number of countries illustrate (Nikolov & Curtain, 2000) that ministries sponsor programs for a while, but when the novelty element, specialist teachers and special in-service training are gone, support caters only for teaching but no further research or in-service education. For example, in Italy in-service teacher training supported the introduction of early language programs but enthusiasm declined with the spread of practice (Gattullo & Pallotti, 2000; Hill, 2000). In Croatia, a large-scale national project including the teaching of a variety of languages and research came to a sudden end as the ministry withdrew support (Mihaljevic Djigunovic & Vilke, 2000). When the government, in fact, introduced FLL as compulsory part of the curriculum from grade 1 in 2003, it ignored the findings of the eight-year project and failed to secure any of the provisions found to be essential for successful FLL. In Scotland, without specialist teachers the initiative became very different from the original project (Blondin et al., 1998).

On the other hand, expectations are often unrealistically high or simply inappropriate. Aims are mostly conceptualized in L2 achievement, and checked on tests, which are not always in harmony with teaching methods. A positive example would be Sweden where standardized tests on English are administered in year 5 to all students (Sundin, 2000). Other countries look for innovative techniques, like the language portfolio (Hasselgreen, 2005), but whether it can solve any of these problems, as hoped in Austria (Jantscher & Landsiedler, 2000), remains to be seen. Testing outcomes is problematic in other ways as well. There has been research on teaching techniques for young learners, but what task types are appropriate and efficient for testing children is an under-researched area. Because the programs aim to develop listening and speaking, these are the appropriate skills to be assessed but doing so costs a lot. Also, who should administer tests, how, and when are

delicate issues. In some countries, unwillingness to introduce evaluation and testing (e.g., Germany) has been widespread, while in other countries assessment is part of the general curriculum, so L2 achievement is also graded (e.g., Hungary).

Teachers of Young Learners and the Quality of the Language Learning Experience:

Teachers and teacher education emerge as the most important stakeholders in early foreign language programs. Despite the fact that teacher education is obviously the cornerstone of early FL education, little research has been conducted into this area. Discussions tend to explore the differences between specialized classroom teachers versus specialist teachers, for example in Italy, UK, Austria, (Moon & Nikolov, 2000; Nikolov & Curtain, 2000), while in other countries the lack of any qualification is typical. For example, in the Czech Republic, 76 per cent of primary teachers were unqualified in 1996/97 (Faklova, 2000), whereas in Hungary, over sixty percent of them are retrained Russian teachers (Nikolov, 2000b). In Poland, there are simply not enough teachers (Komorowska, 2000), whereas in Belgium native L2 teachers are not allowed to teach their L1 (Housen, 2000).

Two general patterns involve classroom teachers with low proficiency but age-appropriate methodology and familiarity with the curriculum, and the specialist teacher, who is more proficient, tends to focus on the target language and often applies inappropriate and demotivating methodology. The relatively low prestige of early L2 teachers in public schools is often in contrast with their higher prestige in the private sector (Nikolov & Curtain, 2000). Teachers' beliefs and motivation are also hardly ever researched. In certain contexts teachers do not share the enthusiasm of parents and other stakeholders. For example, in Hungarian lower primary classrooms, teachers were observed and interviewed (Lugossy, 2006; Nikolov, 2002b). It turned out that very few found satisfaction in teaching young learners, they wished they could stream them and teach the more able only, or teach older learners; they perceived games and storytelling as a waste of time, and looked forward to "proper teaching" in later years.

In-service training programs prepare teachers for the job, but there is not enough research on what teachers actually do in the classrooms before, during and after methodology treatment. Mostly cross-sectional enquiries are applied (e.g., Gattullo, 2000; Nikolov, 2002b), but no longitudinal studies are available. As for what teachers do, a cross-sectional nation-wide study in Hungary inquired into how frequent and liked classroom activities were with 12-year-olds in English and German classes (Nikolov, 2003). The most frequent tasks—and the least popular ones - in both languages included translation, reading aloud, grammar exercises, and tests. The

least frequent tasks were listening to tapes, viewing videos, role-play, and playful activities and these were also the most popular.

It is surprising that there is no study on how teachers' proficiency, especially pronunciation and fluency, contributes to young learners' language development. This is all the more shocking in the light of the arguments discussed in relation to the CPH. One might wonder how children's pronunciation is influenced by the teachers' nonnative oral skills. Even the most carefully designed longitudinal projects avoid focusing on the teacher and discuss findings without an analysis of the quality of teaching (e.g., Garcia Lecumberri & Gallardo, 2003; Munoz, in press).

Conclusion

The conclusion based on these recent studies is that native ultimate attainment is available to a number of adults who started learning the target language after puberty, therefore, the strong version of the CPH cannot be maintained any longer. However, a final note is necessary. Early foreign language learning experience was found to have a significant impact on outcomes in the case of successful Finnish learners (Urponen, 2004). Participants who began their EFL study before age 10 and spoke two or more languages obtained higher nativeness scores than the participants who began later. Whether they were initially more able, or their earlier language learning experience of one or more FLs contributed to their better ultimate attainment would need further research.

CHAPTER II

Introduction

This chapter overviews the research on the complex relationship between bilingualism and cognitive development and the important implications of this relationship for bilingual education. Recent studies are discussed that examine the cognitive development in bilingual children with regard to metalinguistic awareness, concept formation, and analogical reasoning. A case is made for additive bilingual instruction in early childhood programs as a means of reinforcing the productive and receptive knowledge of the first language during this critical period of linguistic, social, and cognitive development.

The debate over bilingual education centers around several key issues, such as culture and language maintenance, individual, community, and national identity, and reasonable access to social, economic, and educational opportunities. However, an underlying issue that learning psychologists have grappled with over the years is whether or not bilingualism should be a desired goal primarily from a cognitive perspective. These scholars recognize that examining the effects of bilingualism on mental and intellectual capacities has far-reaching implications for language policy and teaching. If research consistently demonstrates a positive relationship between cognition and bilingualism, educators can argue that such findings support the aim to promote bilingual education. If, on the other hand, bilinguals are shown to be comparatively deficient to monolinguals, educators could conclude that proficiency in two languages should not be a primary educational goal in the classroom.

A review of the early studies examining the cognitive development of bilinguals is offered, although such research reports negative effects of bilingualism, shortcomings in methodological approaches leave much of the findings suspect. Next, a review of more recent research is presented that addresses these limitations, and supports the notion that bilingual children do indeed display cognitive advantages when compared to monolinguals. Many of these studies have focused on "balanced bilinguals," so a distinction will be made between these studies and those few studies that have investigated

cognition and varying degrees of bilingualism. Also, I examine existing theories explaining how bilingualism affects cognitive processes, and the implications drawn from the presented findings focusing on bilingual instruction in early childhood education.

Early Studies Examining Cognitive Development in Bilinguals

In examining the early studies of bilingualism and cognitive development, educators' first need to consider the social concerns of the country that is under investigation like for example the United States during the turn of the century. The influx of immigrants to America, particularly from Southern and Eastern Europe, called attention to the concern over the new arrivals' poor adaptation to American society. This was evidenced in their poor performances on intelligence tests. Immediately, psychologists representing two theoretical camps came to the forefront offering explanations for these immigrants' performance levels. The hereditarianism followers (school of thought that heredity plays a significant role in determining human nature and character traits), such as Lewis Terman (1919, 1975) and Florence Goodenough (1934), argued that intelligence was innately-based, and that these immigrants were therefore descended from intellectually, genetically inferior peoples. Psychologists and educators representing this line of thought did not consider bilingualism to be a relevant factor. In contrast, the environmentalists, such as Stoddard and Wellman (1934), proposed that proficiency in two languages retarded cognitive growth and only led to mental confusion.

The early studies conducted during the first half of the century grew out of this social context; with such studies showing bilinguals' academic retardation and lower IQ scores, support was provided for the negative effects of bilingualism on cognitive development. Darcy (1953) concluded from a review of relevant research that "the general trend in the literature relating to the effect of bilingualism upon the measure of intelligence, has been toward the conclusion that bilinguals suffer from a language handicap when measured by verbal tests of intelligence" (p. 50). This language handicap was construed as representing the linguistic and mental confusion that retards intelligence through the college years (Saer, 1923). Furthermore, Macnamara (1966) claimed that bilingual children's lower verbal intelligence was a result of a "balance effect" whereby proficiency in a second language necessitated a loss in proficiency in one's first language. Thus, it was proposed that bilinguals never reached comparable levels of linguistic proficiency as did monolinguals. Studies illustrated that bilingual children, in comparison to monolinguals, demonstrated weaker verbal abilities, including poorer vocabularies (Barke & Perry-Williams, 1938), deficient articulation (Carrow, 1957), lower standards on written

composition and more grammatical errors (Harris, 1948). Moreover, studies also indicated deficiencies in bilinguals' development of non-verbal abilities, such as mathematic competency (Carrow, 1957) and dextrality (Saer, 1931).

In contrast to these findings, linguists during the same period continued to provide accounts of children displaying mental advantages from simultaneous exposure to two languages. The most notable case study came from Werner Leopold (1949) who claimed that exposing his daughter Hildegard to two languages enhanced her mental development. He theorized that bilingual children are able to focus on the content of words rather than their forms because bilinguals learn early on the abstractness and symbolism of words and are forced to separate two different words for each referent.

One needs to consider why empirical findings and case studies such as Leopold's seem to contradict one another with respect to how bilinguals develop cognitively. The explanation may lie in the poor methodological approaches of the empirical studies, which have in fact led to claims by current investigators such as Cummins (1976) that these early studies are completely unreliable. One major limitation was that the studies did not control for socioeconomic status between the bilingual and monolingual subjects. As McCarthy (1930) argued, bilingualism in America was confounded with SES (socioeconomic status) since more than half of the children classified as bilinguals in early studies belonged to families from the unskilled labor group.

Another problematic area of the research methodology of early studies was the failure to adequately assess and consider differences in degree of bilingualism. This is certainly seen in how researchers defined and evaluated the bilingual or monolingual status of their subjects. Brunner (1929), for example, determined degree of bilingual proficiency according to place of birth of subject's parents. Furthermore, Hakuta *et al.* (1986) claim that early psychologists used a societal definition of bilingualism in determining language proficiency, as they classified subjects as bilingual according to foreign last name, particularly if a name represented a group that had recently immigrated to America. Obviously, such methods

would not hold up under scrutiny today for it is clear that such techniques cannot ensure that the subjects investigated are indeed bilingual or "just monolingual of a minority language who barely spoke the language of the cognitive tests they were given" (Diaz, 1985a, p. 70).

Recent Studies Examining Cognitive Development in Bilinguals

In the late 1950s a shift in the social sciences emerged where a behavioristic approach was being overshadowed by a cognitivist one. In line with such a shift, bilingualism began to take on a cognitive definition rather than a societal or empirical one; consequently, bilingualism was conceptualized as an individual's proficiency in two language systems. This led to theories hypothesizing the relationship between thought and language, and ultimately, to studies demonstrating positive effects of bilingualism on cognitive functioning.

The landmark study [that significantly impacted the field] was conducted by Elizabeth Peal and Wallace Lambert (1962) at McGill University in Montreal. Peal and Lambert introduced the concept of "balanced bilingual" in response to the mentioned methodological problem of early studies where "pseudo bilinguals," or those not equally proficient in two languages, were being examined. In order to better measure the effects of second language acquisition on intelligence, these researchers argued that balanced bilinguals had to be investigated. Employing three different tests to determine such status, they compared French-English balanced bilingual fourth graders in Canada and comparable monolingual children on intelligence tests, including a modified version of the *Lavoie-Larendau Group Test of General Intelligence*, the *Raven's Coloured Progressive Matrices*, and subtests of the *Thurstone and Thurstone Primary Mental Abilities Test*. In addition to controlling for sex, age, and SES, Peal and Lambert also attempted to control for linguistic proficiency through self-evaluations of the languages spoken by the children and through tests of vocabulary and association. The study found that bilingual children scored significantly higher than monolinguals on most of the measures of verbal and nonverbal intelligence, in particular on those tests requiring mental manipulation and reorganization of visual symbols, concept formation, and symbolic flexibility. Peal and Lambert concluded that the bilingual children outperformed their monolingual peers due to their enhanced mental flexibility and strong concept formation skills. Thus, contrary to previous studies, Peal and Lambert's research suggested cognitive advantages to being bilingual, calling into question the validity

of earlier studies and supporting the claims linguists had been making for years.

In addition, the study was a breakthrough in terms of research methodology. Peal and Lambert went to greater lengths to determine "true" bilingual status, and controlled for variables inadequately addressed previously (e.g., SES, parental education, years of schooling) that may have confounded earlier studies. Nonetheless, researchers have been cautious in readily accepting Peal and Lambert's findings as conclusive. Macnamara (1966) points out that the Canadian researchers' sample may have been biased because they selected bilingual subjects from those children who scored above a certain level on the English version of the *Peabody Picture Vocabulary Test*. The bilingual sample was also in a higher grade, receiving more formal instruction than the monolingual sample. And third, the frequency distribution of the *Raven's* scores was significantly different for both samples (negatively skewed for bilinguals, opposite for monolinguals). All such factors could have biased the sample in favor of the bilingual children. However, as previously mentioned, one could hardly argue that this study in particular [significantly impacted] the field examining intelligence and bilingualism in many positive respects. After decades of studies demonstrating negative effects of two-language proficiency, psychologists and educators began examining potential positive effects.

Since the early 1960s there have been diverse studies examining the cognitive development of bilingual children. A significant portion of the literature is devoted to metalinguistic awareness (MLA), which refers to "the ability to make language forms opaque and attend to them in and for themselves" (Cazden, 1974, p. 24). Thus, metalinguistic awareness involves the ability to objectify language, to focus on the form, rather than the meaning, of sentences. DeVilliers and DeVilliers (1978) discuss metalinguistics as it reflects an awareness of component sounds, word-meaning correspondence, rules of grammar and semantics, and ambiguity. Research has shown MLA to be an important element in intellectual development, including the development of reading skills (see Hakuta, 1986), and in schooling participation, including language uses that are typically required in the classroom - thinking about language forms, defining words, categorizing words by parts of speech, breaking words into component syllables, identifying sounds, and identifying written sentences for punctuation (Lindfors, 1991).

Several studies lend support to the notion that the bilingual experience enhances the ability to think flexibly and abstractly about language. Ianco-Worrall (1972) studied South African children from ages 4 through 9 proficient in English

and Afrikaans. Administering the *Semantic-Phonetic Preference Test* illustrated bilingual children's preference for comparing words along semantic dimensions, a linguistically, developmentally more advanced ability, than along phonetic dimensions. Specifically, bilingual children appeared to be two to three years ahead of the monolinguals with regard to semantic development.

A second significant study investigating metalinguistic awareness was conducted by Ben-Zeev (1977) with bilingual Hebrew-English children. This researcher found that such children outperformed monolinguals on tasks involving "symbol substitution," e.g., constructing grammatically-violated sentences according to the experimenter's direction. Such tasks are designed to measure children's awareness of language features as well as the ability to control the automatic production of correct sentences. Other studies have also examined enhanced metalinguistic awareness in bilinguals. For example, Irish-English and Ukrainian-English bilingual children were shown to have greater capacities to evaluate tautological and contradictory statements than their monolingual peers (Cummins, 1978a). Furthermore, Galambos (1982) found that El Salvadoran children proficient in English and Spanish demonstrated a stronger syntactic orientation when judging grammatically correct and incorrect sentences in both languages.

The literature thus strongly suggests the cognitive advantages of bilingualism, particularly with regard to metalinguistic awareness. But bilingual children do show other enhancements in their mental development. The relationship between bilingualism and concept formation is illustrative. Bain (1974) studied the discovery of rules needed to solve linear numerical problems, including capacities for classification and rule generalization. Bain's findings, similar to those of other scholars (e.g., Liedtke & Nelson, 1968), display bilingual children's superior performance on concept formation tasks.

Analogical reasoning has also received a great deal of attention by psychologists because of its developmental importance in cognition.

Diaz (1985a) examined the effects of learning a second language on the ability to reason by analogy. In investigating such ability in Spanish- English bilingual children aged five to seven years, Diaz presented sentences such as the following for children to complete:

The princess is beautiful, the monster is _____ .

Snow is ice, rain is _____ .

Diaz found from this longitudinal study that those children with stronger proficiency in both languages displayed stronger analogical reasoning ability. Moreover, research appears to suggest a positive relationship between bilingualism and a wide range of other cognitive measures, including enhanced ability to restructure perceptual solutions (Balkan, 1970), stronger performances in rule discovery tasks (Bain, 1975), greater verbal ability and verbal originality, and precocious levels of divergent thinking and creativity (Cummins & Gulutsan, 1974).

In contrast to the findings of positive effects of bilingualism on cognitive development, some studies suggest negative effects, or a cognitive disadvantage. Ten to eleven year old Japanese-English bilinguals, for example, scored lower on measures of verbal ability than monolinguals in a comparison group (Tsushima & Hogan, 1975). Furthermore, Ben-Zeev (1977) found that while the Spanish-English bilingual children studied showed comparably stronger performance levels on tasks requiring verbal transformation and analyses of structural complexity than English monolinguals, these same bilinguals also showed some delay in vocabulary and grammatical structures. Therefore, one must consider advantages as well as disadvantages that may be linked to bilingualism, and which processes may or may not be affected by the

experience of developing proficiency in two language systems.

Despite the general consistency of findings illustrating positive links between intellectual capacities and bilingualism, some researchers are quick to point out limitations of the methodologies employed in these studies. One issue centers around the notion that bilingual and monolingual groups are not comparable due to the impossibility of true random assignment. "Groups can differ in environmental upbringings with childhood bilingualism co-occurring with variations in a wide range of socioeconomic, cultural, educational, and ethnic variables," all of which may contribute to differences in tests of mental abilities (Hakuta *et al.*, 1986).

Another criticism is that the research discussed has largely ignored the issue of direction of causality, i.e., does bilingualism enhance cognitive development or do more intellectually gifted children become higher-proficient bilinguals? In order to examine the issue of cause and effect it is imperative to conduct longitudinal studies as opposed to collecting correlational data from cross-sectional studies. Bank and Swain (1975) conducted one of the only early longitudinal studies in this area. They evaluated changes in IQ scores for children from regular and Canadian-French immersion programs, and found that the latter group had significantly higher IQ scores throughout testing points during the five-year period. Relevant longitudinal findings are also presented by Diaz (1985a) who studied 5-7 year old Spanish-English bilingual children enrolled in bilingual education programs. Assessing performance on cognitive tasks at two points in time (6 months apart), Diaz found that L2 (English) proficiency was a strong predictor of various cognitive measures, including metalinguistic awareness and performance on nonverbal abilities measured by the Raven's. Clearly, though, future research is needed to infer the causal direction in such a relationship.

Many of these studies have exclusively examined balanced bilinguals. Therefore, findings may not be generalizable to a majority of bilinguals who are not "equally" proficient in L1 and L2, and who do not have facility with both as a means of communicating. Such is certainly the case of many children in bilingual programs in the US who are in the early stages of acquiring or learning English.

Cognitive Development and Degree of Bilingualism

In light of the aforementioned criticisms, some researchers have begun to examine the intelligence of bilinguals from a within-group, within-bilingual, and framework. Such a perspective allows for an examination of how differing degrees of bilingualism may be related to cognitive abilities. Duncan and DeAvila (1979) performed one of the earliest of such studies when they analyzed tests of cognitive ability for Hispanic children who differed in their proficiency in English and Spanish. The researchers classified the children into five groups according to bilingual proficiency: proficient bilinguals, partial bilinguals, monolinguals, limited bilingual, and late language learners. The most proficient subjects, i.e., the proficient bilinguals, performed significantly highest on all measures of cognitive ability, with no differences among the partial bilinguals, monolinguals, and limited bilinguals. Bilinguality in such studies is typically concerned not merely with the impact of high degrees of bilingualism (i.e., high levels of proficiency in L1 and L2 skills) on cognitive functioning, but equally important, with the impact of dominant bilinguality (i.e., greater proficiency in one language over another), on these processes (Hamers & Blanc, 1989).

Duncan and DeAvila's results are suspect, however, because differences may have been attributable to basic intellectual abilities or IQ since such factors were not controlled. To overcome this limitation, researchers have utilized multiple regression techniques where "the effects of bilingualism on cognitive ability could be assessed by estimating the variance explained by second-language proficiency, once the variance explained by first-language ability and other relevant variables (such as socioeconomic status) is partialled out from the analysis" (Hakuta, Diaz & Padilla, 1986, p. 19).

In a study of low-SES Hispanic elementary school children enrolled in bilingual education programs, it was found that those children who displayed greater proficiencies in L1 and L2 performed significantly better on measures of metalinguistic awareness and nonverbal intelligence (Hakuta, 1985). Other studies have similarly found a positive link between second language proficiency and enhanced cognitive skills (e.g., visual-spatial skills, analogical reasoning, and classification tasks) when multiple regression techniques were employed as part of the methodology (see Hakuta *et al.*,

1986 for review).

The specific relationship between L2 proficiency and cognitive abilities may seem apparent at first glance. For example, Duncan and DeAvila reported, as previously mentioned, higher scores on cognitive tasks for their group of highest proficient bilinguals, with no significant differences in performance by the partial bilinguals, monolinguals, and limited bilinguals. These findings lend strong support to Cummins' threshold hypothesis (1976) which claims that cognitive advantages are only possible once a certain level or threshold of first and second language proficiency has been acquired. Cummins proposes that children must attain a critical level of proficiency in their native language in order to avoid cognitive deficits associated with bilingualism, and that a critical level of proficiency in L2 must be reached if advantages in cognitive functioning are to develop. Thus, those children who do not achieve high levels of proficiency in both L1 and L2 are at a cognitive disadvantage when compared to monolinguals. Although Cummins' model proposed mental disadvantages developing within certain contexts, such as unbalanced bilingualism, his interactionist hypothesis represented a shift from a disadvantaged model of bilingualism to an advantaged one.

Diaz' (1985a, 1985b) research further examines the validity of the threshold hypothesis. In a study of Spanish-English bilingual kindergarten and first grade children who varied in their L2 proficiency, Diaz found that degree of bilingualism predicted cognitive variability in children with low L2 proficiency, with such variability weakly linked for children comparatively more proficient in L2. Therefore, as Diaz postulates, we need an alternate hypothesis to Cummins' theory that will take into account the ways in which "degree of bilingualism will predict significant portions of cognitive variance only before a certain level of second-language proficiency has been achieved" (Diaz, 1985b, p. 1386). Furthermore, Garcia (1985) criticizes Cummins' interactionist theory because its support comes primarily from Canadian studies with a potentially biased subject pool in which only high achieving children were selected for inclusion into bilingual education groupings. Successful subjects may also have come from higher-SES backgrounds where L2 acquisition was overtly rewarded. These contexts, then, do not represent situations of low SES students where a minority language and culture do not hold the same highly respected status. Garcia argues,

...it is not necessary to account for differences in bilingual (balanced or not) and monolingual's cognitive performance on the basis of a cognitively advantaged/disadvantaged conceptualization. Instead, it remains possible that individual differences in intellectual functioning combined with the support/non-support of the social context for acquiring linguistic and academic skills, are the factors responsible for any specific differences in bilingual and monolingual performance on cognitive measures"(p. 19).

Bilingualism and Cognitive Processes

Given the strong evidence for positive links between bilingualism and cognitive processes, researchers have found explanatory power in varying models. Although much past research has focused on outcome, or product, measures of cognition rather than process variables (Diaz, 1985a), researchers have proposed theories to explain the positive relationship.

An objectification theory claims that by acquiring two languages, bilinguals learn more about the forms as well as the functions of language in general, which affects various cognitive processes. Vygotsky (1978, 1986), one of the first to discuss the effects of bilingualism, claimed that the bilingual child is able "to see a language as one particular system among many, to view its phenomena under more general categories, and this leads to awareness of his linguistic operation." Experience with two language systems may enable bilinguals to have a precocious understanding of the arbitrariness of language. For example, researchers have demonstrated that bilingual children are often more willing to relinquish a known name for an object and substitute a nonsense or unconventional word (e.g., Ben-Zeev, 1974; Ianco-Worrall, 1972), and to verbalize the arbitrary link between words and referents (Cummins, 1978b). Moreover, the ability to objectify language is linked to a capacity Piaget (1929) termed non-syncretism, which is the awareness that attributes of an object do not transfer to the word itself. Edwards and Christophersen (1988) found that bilinguals may have an enhanced level of such understanding, and researchers such as Olson (1977) have shown such capacity to be linked to literacy. Lastly, by learning that two words can exist for a single referent, bilinguals may develop not only increased knowledge of their L1 and L2, but of language in general as a symbolic system. Thus, such children may process concepts

through higher levels of symbolic and abstract thinking (Hakuta, 1986).

A second model proposed by researchers is consistent with code-switching theory. Because bilinguals are able to move rather easily from verbal production in one language to that in another, they may have an added flexibility. Peal and Lambert (1962) theorized that the ability to code-switch provides bilinguals with an added mental flexibility when solving cognitive tasks. They assert,

...bilinguals typically acquire experience in switching from one language to another, possibly trying to solve a problem while thinking in one language, and then, when blocked, switching to another. This habit, if it were developed, could help them in their performance on tests requiring symbolic reorganization since they demand a readiness to drop one hypothesis or concept and try another (p. 14).

Other psychologists and psycholinguists operate from a verbal mediation theoretical framework to describe how bilinguality affects cognitive processing. From such a perspective, bilinguals are believed to have an enhanced use of self-regulatory functions of language as a tool of thought guiding inner speech or verbal thinking. For example, Diaz and Padilla (1985) found that children with high degrees of both L1 and L2 proficiency, in comparison to those with lower degrees, produced more self-regulatory utterances, in addition to employing more task-relevant linguistic functions (e.g., labeling, guiding, transitional and planning utterances). Thus, language may be a more effective tool for bilinguals in approaching cognitive tasks.

The objectification, code-switching, and verbal mediation theories have contributed to our understanding of bilingual children's active processing of linguistic information into coherent systems of knowledge. Emerging from these models is a discussion of related cognitive strategies bilingual children appear to utilize in making sense of their language environments. Segalowitz (1977) claims that proficiency in two languages leads to a more sophisticated, better-equipped "mental calculus" that governs manipulation of symbols and alternation between linguistic rules. Bialystok and Ryan

(1985) link bilingualism to greater cognitive control in information processing, while Genesee (1981) proposes that bilingual children's enhanced awareness of the arbitrariness of the word-referent relationship is a result of an enhanced general cognitive ability to analyze underlying conceptual characteristics in information processing.

Sociocultural Context of Bilingualism

Investigations into the cognitive effects of bilingualism cannot be viewed in isolation from the sociocultural context in which bilingual children learn and develop. Bruner (1966) argues that once children reach the symbolic stage, the cultural environment serves as a catalyst for mental growth and development. Therefore, the conditions under which different types of bilingualism occur must be examined, as Fishman (1977) notes,

...better controlled experiments...cannot explain shifts in social climate that take place across a decade or more. I would predict that every conceivable relationship between intelligence and bilingualism could obtain, and that our task is not so much the determination of whether there is a relationship between the two but of when (i.e., in which socio- pedagogical contexts) which kind of relationship (positive, negative, strong, weak, independent or not) obtains (p. 38).

Lambert (1977) distinguishes between an additive form of bilingualism and a subtractive form. An additive form

involves both languages and cultures being complementary positive influences on overall development, which results from valuing the languages and cultures of families and communities. Thus, an additive approach to bilingualism involves acquisition of a second language at the same time that all abilities in L1 are maintained, as is the case of children from a dominant social group learning a minority language within school. A subtractive form of bilingualism, on the other hand, occurs when two languages are competing. Lambert claims that when ethno-linguistic minority children reject their own cultural values and practices for those of the prestigious, dominant group, L2 eventually replaces their native language. In contrast, immigrant ethno-linguistic minority children, for example those in the US, who often do not fully develop their cognitive abilities in their native language while they must confront instruction in another language at school. Skutnabb-Kangas and Toukomaa (1976) claim that subtractive programs lead to "semi-lingualism," a situation in which children are not able to communicate and function adequately in either language for a number of years. Semi-lingualism, these researchers claim, can eventually lead to cognitive retardation.

Empirical support lends strong evidence to differential cognitive effects of varying types of societal bilingualism. Long and Padilla (1970), for example, found that children whose low status native language was valued and fully used in the household performed better in school than children whose low status L1 was neglected and substituted with L2 at home. Moreover, Dube and Herbert (1975) found that school performance and linguistic proficiency in both languages increased when children's mother tongue was valued and used in the classroom. Therefore, in examining how bilingualism might affect cognitive development one must consider whether communities, be they schools, families, or society in general, view bilingualism as a desirable and valuable condition, or rather as unnecessary and of little value and importance.

A Case for Bilingual Instruction in Early Childhood Education

Important implications can be drawn from the research on bilingualism and cognition that have direct relevance to bilingual instruction, particularly at the early childhood education level.

Cummins (1984) claims that often children are not provided with access to bilingual education due largely to the myth held by educators of the cognitive handicap attributed to bilinguals. This "myth of the bilingual handicap" holds that when linguistic minorities fail in school it is because of their bilinguality. While the educational goal then becomes to develop proficiency in L2 for such students, the children's use of their native language is discouraged or forbidden. Cummins argues that this leads to feelings of embarrassment and shame of one's own culture and language, which in turn can lead to use of L2, abandonment of L1, and ensuing academic difficulties. This reinforces the myth and results in stronger advocacy for L2 instruction. Cummins argues that the school system, rather than bilingualism, is responsible for low achievement of some linguistic minority children, and that schools need to provide instruction that will value one's mother tongue and encourage its use, or another example when a dominant second language (like French) is encouraged by the school system and the society, and a less known language (like English) is ignored by both the administration and the society .

When one considers the implementation of bilingual education programs, one must recognize the need for such programs at the early childhood education level. The preschool years in particular are critical to social, linguistic, and cognitive development, as Garcia (1985) states, "...basic linguistic skills of adult language as well as important personal and social attributes are significantly influenced during these years" (p. 20). Garcia goes on to argue for the removal of potential barriers to such development through providing bilingual instruction in early educational interventions. Research examining the effects of bilingual instruction in early childhood education is limited. However one major study involved an evaluation of bilingual Head Start programs which revealed that bilingual instruction was positively linked to enhanced cognitive language development, concept development, and perceptual motor development (Sandoval-Martinez, 1982).

There is, however, ongoing debate over which types of bilingual education programs should be provided for preschoolers. For example, Dulay and Burt (1972) claim that an immersion or transition program focused on incidental, naturally occurring exposure to L2 is the most effective strategy for second language acquisition (as measured by rates of L2 errors related to L1 structure). In contrast, DeAvila and Duncan (1979) provide evidence for effective L2 acquisition and enhanced cognitive flexibility linked to formal maintenance programs that reinforce native language and provide formal instruction of L2. Furthermore, a review of the research lends strong support for positive effects resulting from an additive approach to bilingual education (programs that aim to enable L2 acquisition without loss of L1) rather than a subtractive approach (where L2 is acquired at the expense of L1). Hakuta (1985) argues against bilingual education solely as a means to enhance cognitive development, but states that when bilingualism is a desired goal, enhanced cognitive ability is an added gain to the advantages of learning two languages and two cultures.

However, one must also examine the sociocultural contexts in which bilingualism occurs, as threats to language shift and erosion may render bilingual instruction at the early childhood education level socially and cognitively damaging. The No-Cost Research Group conducted a nationwide investigation into the effects of learning English in preschool for linguistic minority children and families (Wong Fillmore, 1991). Researchers examined approximately 690 American Indian, Arab, Asian, Latino, and other immigrant families whose children had attended English-only or bilingual preschools. These children and families were compared to a group of 311 Spanish speaking families whose children had attended preschools where instruction was provided exclusively in their native language.

The study produced several important findings with regard to language patterns in the home: 64.4% of the children who had attended an English-only preschool, and 47.2% who had attended a bilingual preschool, were rated by their parents as demonstrating a negative change in language use. Their native language was being displaced by English. In comparison, only 26.3% of the children who attended preschools instructed in their native language experienced a negative linguistic shift. In addition, 42.1% of these children, in comparison to only 18.6% of those in a bilingual preschool and 2.8% of those in an English-only preschool, showed a positive change, i.e., an increased use of the family's home language.

Furthermore, the NCRG study also found that, unlike many of the children in the comparison group who were enrolled in native language preschools, main study children attending bilingual or English-only programs used English more frequently and their L1 less frequently with siblings, parents, and other adults in the household. These children were also 6 to 8 times more likely than comparison group children to be judged by parents as being linguistically less proficient when compared to age appropriate standards.

One must consider the far reaching implications of this study. Children as young as 3 and 4 years of age are indeed susceptible to external and internal assimilative forces to learn English. They quickly recognize upon entering preschool, particularly when the curriculum is presented in English, that English proficiency provides a link to social communication and acceptance. Ultimately, children's L1 is often displaced by English, which might be quite damaging cognitively, given that many children abandon their L1 before developing communicative competence and adequate linguistic proficiency in L2. Furthermore, displacement of L1 by English can be quite detrimental to many immigrant families because of the

potential negative effects on parent- child relationships. Many such parents have limited, or no, proficiency in English. When children lose productive as well as receptive knowledge of their native language, communication barriers result. Moreover, given a population of preschool-aged children, such barriers can be disastrous as parents are then limited in their ability to socialize and teach their children during a critical period of early childhood social, cognitive, and linguistic development. In such instances, parents are left unable to transmit knowledge, cultural values, and belief systems effectively.

Some researchers, educators, and lay persons continue to maintain the belief that bilinguality impedes cognitive development. Paliy and Homel (1987) propose two probable explanations: the lag in publication of relevant findings in research journals and in secondary sources, such as textbooks; and research on bilingualism and biculturalism has not been a major focus of psychology as is reflective of any culture's ambivalent perspective on language maintenance of. However, as research in this field continues to define the relationship between bilingualism and cognition, perceptions and beliefs about the nature and significance of these links may be altered. Those educators committed to equitable education for limited English proficient students will need to advance a research agenda that incorporates explorations into the significant role of bilingual instruction at all levels of education, but particularly within a level largely ignored in language research, that of early childhood education.

Neuroimaging studies on age and proficiency in L2 acquisition

To address the issue of whether there are neurophysiological changes in the brain before puberty that can account for the general tendency that early learners attain a higher level of proficiency than late learners, neuroimaging techniques seem very suitable. If late learners are shown to process their second language in different brain areas than early learners, for example, this could support the CPH for L2 acquisition. It should be noted, however, that most studies do not focus on syntax and that the interpretation of results from neuroimaging studies in general is difficult at this stage, because we still know very little about the exact function of brain areas involved in language production and perception and about how exactly the brain works with respect to language. We know even less about the neurological processes involved in language acquisition. Moreover, certain methods may not be fine-grained enough to reveal subtle differences. Some results of recent neuroimaging studies with second language learners nevertheless provide an interesting perspective on relevant issues with respect to the CPH for second language acquisition.

Abutalebi, Cappa and Perani (2001) give an overview of perception and production studies that have been done with bilinguals using PET (positron emission tomography) and fMRI (functional magnetic resonance imaging) scans. Both PET and fMRI are indirect measures of the amount of blood that flows to different areas in the brain. Both techniques compare the amount of blood flow during a test and a control condition (e.g. looking at pictures versus looking at a blank screen). In PET studies this is measured by probing radioactive tracers in the blood. In fMRI studies magnetic changes are detected resulting from changes in local blood oxygenation levels. If there is more blood in a certain area of the brain during the test condition than during the control condition, this is interpreted as activation of this brain area.

Both techniques are quite accurate at localising brain activation, but they are not very accurate at establishing at which time the activation occurs. The temporal resolution for fMRI is better, though, than for PET. Due to this problem with the temporal resolution, only tasks in which the same function is performed for at least three seconds can be used. This makes it difficult (if not impossible) to look at syntactic processes, for example. Another advantage of fMRI studies is that no radionuclides are used, which makes it possible to repeat experiments several times with the same participants. A disadvantage of fMRI is that the air in the middle ear and the mastoid bones creates interference with the magnetic field, resulting in loss of visualization of certain areas. Of the six production studies Abutalebi. (2001), there are two that compare early and late bilinguals (Kim, Relkin, Lee & Hirsch, 1997, and Chee, Tan & Thiel, 1999) and both use fMRI.

Kim et al. (1997) used twelve proficient bilinguals with different language pairs. However, they did not assess the participants' proficiency. Six participants had been exposed to both languages during early infancy, whereas the other six started learning their L2 after puberty. The task that was used involved the description of activities using covert speech. This is, of course, a task in which many different aspects of language are involved (e.g. semantics, lexical access, syntax), as well as cognitive abilities (such as memory) that are not specific to language. The main result of this study was that, in late learners, L1 and L2 were represented in different parts of Broca's area and in the same regions in Wernicke's area, whereas for early learners overlapping parts were activated in both areas for both languages.

Chee et al. (1999) on the other hand, did not find different patterns of brain activation for both languages in late bilinguals. They compared fifteen early Mandarin-English bilinguals (L2 acquisition before age six) to nine late Mandarin-English bilinguals (L2 acquisition after age twelve), all living in Singapore. According to Abutalebi et al. (2001), this is a community "in which bilingual speakers can be expected to be highly proficient in each language" (p. 183). The task they used was a word generation task, in which words were cued by a visually presented word stem. They found a similar pattern of brain activation in the left prefrontal cortex for both languages and both groups, in spite of differences in writing systems between Mandarin and English.

As Abutalebi et al. suggest, this difference in results between Chee et al.'s study and Kim et al.'s study might be due to differences in proficiency between the late learners in both studies. However, the differences in the results might also be due to the differences in the tasks that were used. Yetkin, Yetkin, Haughton and Cox (1996) also did an fMRI study of language production in multilinguals that speaks to this issue, in spite of some methodological problems (see Abutalebi et al., 2001). They tested multilinguals (with different language combinations) that were fluent in a second language but not in a third language on word generation (phonemic verbal fluency) in their L1, L2 and L3. They found more extended activations for the languages in which the participants were less fluent, suggesting that proficiency (or exposure) is an important factor. On the other hand, they also found activation in the left prefrontal cortex for all the participants' languages, including the non-fluent L3. This suggests, that this area is not very sensitive to proficiency differences.

Fortunately, the comprehension studies that Abutalebi et al. (2001) review are easier to compare. Of the four studies in which late bilinguals are tested, three use a task in which participants have to listen to stories (Perani et al.,

1996; Dehaene et al., 1997 and Perani et al., 1998). Dehaene et al. (1997) tested 8 late French-English bilinguals with a low level of proficiency in an fMRI experiment. They found rather different activations for L2 compared to L1, including activation in the right hemisphere and a great deal of individual variation in activation for listening in the L2. Perani et al. (1996), did a similar experiment in a PET study. In this study, they tested 9 Italian-English late bilinguals with a low level of proficiency. In addition to listening in the L1 and L2, they also measured brain activity during listening in an unknown language (Japanese). Whereas the activation pattern for English and the unknown language was the same (activation in the left and right superior and middle temporal areas), the activation for listening to the L1 was more extensive.

In a follow-up PET study, Perani et al. (1998) compared early and late L2-learners with a high level of proficiency. Twelve Spanish-Catalan bilinguals who acquired Catalan before the age of four were compared with nine Italian-English bilinguals who acquired English after the age of ten. In this study, the activation pattern was similar for both languages and for both types of learners. Moreover, a comparison between the late highly proficient Italian-English bilinguals from this study with the late Italian-English bilinguals with a low level of proficiency from Perani et al. (1996), showed that the highly proficient bilinguals had activation for L2 in the temporal poles and in the left anterior and posterior part of the middle temporal gyrus, whereas the late bilinguals with a low level of proficiency did not.

These results clearly provide evidence “of considerable plasticity in the network that mediates language comprehension in the bilingual brain” (Abutalebi et al., 2001: 186). They also strongly suggest that proficiency is more important as a determinant of cortical representation than age of onset of L2 acquisition.

This conclusion can also be drawn from an ERP (event related brain potential) study by Ardal, Donald, Meuter, Muldrew and Luce (1990). In ERP-studies, electrical brain activity is measured by placing a number of electrodes on a participant’s head (the number of electrodes used differs across studies). The signals from these electrodes are displayed in an EEG (electroencephalogram). By time-locking the EEG wave pattern to specific events that occur in the test an ERP is obtained. In order to be able to interpret the brain waves, it is necessary to average over many trials with the same stimulus type. For the interpretation of the data the ERP of the test- condition is always compared to that of a control condition (e.g. a syntactically incorrect sentence versus an equivalent correct sentence), with respect to polarity (positive or negative), length, amplitude and time. Compared to PET and fMRI, ERP has a good temporal resolution, but is much

less accurate at locating brain activation. Because of this, ERP is mostly used to detect more subtle syntactic or semantic processes. Three important linguistic ERP components that have been found for native speakers for these domains are the N400, the P600 and the ELAN (early left anterior negativity). The N400 is a negative deflection in the brain wave at around 400 milliseconds (ms) after the presentation of a semantically anomalous word. The P600 is a positive deflection in the brain wave at about 600 ms after the presentation of a syntactic anomaly. The ELAN is an early negative deflection on the left front side of the brain, which is sometimes found in syntactic conditions.

Ardal et al. tested 12 early (age of onset 3-10) and 12 late (age of onset 13-17) proficient learners of French and English from different L1 backgrounds (mainly French and English) and 24 English monolinguals on their response to incongruent and congruent sentence final words. They “took care to obtain bilinguals with roughly equivalent language fluency or competence at each age of acquisition level” in order to prevent “the strong confounding of current fluency with age of acquisition which very often occurs in the bilingual.” (p. 203)

The N400-effect occurred earlier in the monolinguals than in the bilinguals and later in the bilinguals’ L2 than in their L1. There was also a left-right parietal asymmetry between the monolinguals and the bilinguals and the bilinguals had reduced frontal negativities for their L2 compared to their L1. However, this was not the case for a group of six highly fluent French-English bilinguals. There was no difference for either the L1 or the L2 between early versus late bilinguals. These results strongly suggest that the differences between the monolinguals and the late bilinguals are caused by the difference in having one versus two languages and differences in proficiency rather than by age of onset of acquisition.

It should be noted that all the tasks used in the studies discussed above do not specifically test syntax. Moreover, differences in activation for syntactic processing may be invisible if there is an overlap in regions (or electricity effects) involved in syntax and other areas of language. Syntax does play an important role, however, in several other ERP studies.

Hahne and Friederici (2001) looked at syntactic and semantic processing in late Japanese learners of German (AoA

18-31) in comparison with native speakers of German. The learners had learned German in formal settings for 4-60 months (mean 30 months). Their self-estimated proficiency on a six-point scale (1 = no knowledge, 6 = equivalent to native speaker) was 3.5 on average. Participants were presented with correct sentences, semantically incorrect sentences, syntactically incorrect sentences and sentences that were both semantically and syntactically incorrect. They had to judge the sentences for linguistic integrity, while their EEG was recorded from 25 scalp sites.

The L2-learners scored above chance on all conditions. They made most errors in the syntactically incorrect sentences. The ERP-data show differences between the L2-learners and the native speakers in all conditions. For the correct sentences, the ERP-pattern of the L2-learners showed similarities with the ERP-pattern for incorrect sentences obtained from native speakers, suggesting that “the processes which L2-learners have to conduct in order to understand a correct sentence resembles those performed by native listeners during the processing of syntactically incorrect sentences” (p. 129). For the L2-learners, the ERP-pattern for the syntactically incorrect sentences was very similar to that of the correct sentences and there was no clear P600-effect. Furthermore, there was a larger group effect in the syntactic condition on the right than on the left hemisphere.

Weber-Fox and Neville (1996) also compared syntactic with semantic anomalies in an ERP-study with 61 Chinese-English bilinguals with at least five years of immersion. They divided their participants into five age of arrival groups (AoA 1-3, 4-6, 7-10, 11-13, and > 16). Participants were not selected on the basis of their proficiency and the older learners' proficiency in English was much lower than that of the early learners.

Whereas for the semantically incorrect sentences all participants who had arrived before the age of eleven performed like native speakers, there was a linear decrease across AoA groups for the syntactically incorrect sentences in the behavioural data. For the semantic condition, the N400 was later for the highest AoA group. All other groups had a normal N400 pattern. For the syntactic condition, the ELAN found for monolinguals was absent in the learners. According to Weber-Fox and Neville, however, this might be due to the small number of participants in the learner groups. The P600 effect was delayed for the AoA 11-13 group and absent for the oldest learners.

Sabourin (2003) looked at processing of gender by advanced late learners of Dutch in an ERP-experiment. She compared a control group of 23 native speakers of Dutch with 14 native speakers of German, 8 native speakers of a Romance language and 9 native speakers of English on grammatical gender and gender agreement in their L2 Dutch. The learners' exposure to Dutch ranged from 3 to 32 years. They scored between 76% and 100% on sentences in an on-line grammaticality judgment task testing finiteness (the difference between infinitives and participles) and subject-verb agreement. This was used as a proficiency criterion to make sure that participants were very proficient in Dutch. However, the regular morphological markings for both finiteness and agreement are easy to learn by heart, they are discussed in most Dutch courses and finiteness and subject-verb agreement are also morphologically marked in the source languages in this study. Being able to perform well on such sentences, therefore, does not necessarily imply a high level of proficiency.

In the ERP-experiment, a grammaticality judgment test was used in which sentences were presented visually word by word and participants had to press a button to indicate whether a sentence was grammatical or ungrammatical. To test the participants' command of grammatical gender, four conditions were used: an NP definite condition, in which the right or wrong definite article occurred, an NP indefinite condition, in which the adjective was presented with or without inflection for gender agreement, an RP definite condition, in which the relative pronoun did or did not agree with the definite antecedent and an RP indefinite condition, in which the relative pronoun did or did not agree with the indefinite antecedent.

There were significant differences in the behavioural data between the native speakers of Dutch and all L1 groups on all conditions, including both proficiency conditions. For the test conditions the L1 German group performed significantly better than the two other L1 groups, who scored at chance level for the ungrammatical sentences. For the proficiency conditions the differences between groups were not significant. Considering these results, it is not very surprising that there were also differences between the native speakers and the learner groups in the ERP-data.

For the native speakers and the German group, the ERP-data were only based on the sentences that were responded to correctly. However, because of the poor performance of the Romance and English groups on the behavioural task, sentences to which they responded incorrectly were included in their ERP-data. This makes the comparison between

these groups and the native speakers possibly unreliable. The German group had a P600 effect for all conditions, except for the NP-indefinite condition, for which they had a positivity with an atypical distribution. Only for the finiteness and NP-definite conditions, the P600 was similar to that of the native speakers. For the other four conditions, the effect was more delayed, more restricted in distribution and/or had a lower amplitude. The Romance group had a P600 on the finiteness condition (although delayed and with decreased amplitude), a possible (late) P600 for the relative pronoun (RP) conditions and no P600 for the NP- and subject-verb conditions. The English group had a P600 effect (although different from that of the NSs) for the finiteness and subject-verb agreement conditions, a possible late and restricted P600 for the RP-definite condition and no significant positivity for the RP-indefinite condition.

Sabourin concludes from these data that native-like processing is only possible for grammatical features that are very similar in the L1 and the L2. However, because of the problems with the proficiency criterion and the lack of analysis of individual learners, this conclusion seems unfounded on the basis of these data.

Since the late learners in these ERP-studies were not highly proficient, it is hard to tell whether the processing differences for syntax between late learners and monolinguals are specific to syntax or due to proficiency differences. The results do show, however, that the influence of age in SLA is not the same for syntax and other domains, such as semantics.

CONCLUSION

Research on bilingualism and second language acquisition converges strongly on a simple take-home point: earlier is better. There may not be a sharp turn for the worse at any point in development, but there is an incremental decline in language learning abilities with age (Birdsong & Molis, 2001; Hakuta, Bialystok, & Wiley, 2003).

This point is best understood as an interaction between biological and environmental factors. Researchers have argued that biological change during the first few years of life results in a reduced capacity for learning and retaining the subtleties of language (Johnson & Newport, 1989; Weber-Fox & Neville, 2001). In other words, our brains may be more receptive to language earlier in life. But importantly, our environment is also more conducive to language learning earlier in life. In many cultures and in many families, young children experience a very rich language environment during the first years of life. They hear language in attention-grabbing, digestible bundles that are targeted skillfully at their developmental level (Fernald & Simon, 1984). Caregivers typically speak in ways that are neither too simple nor too complex, and children receive hours and hours of practice with language every day. This high-quality and high-quantity experience with language—a special feature of how people communicate with young children often results in successful language learning. It gives children rich, diverse, and engaging opportunities to learn about the sounds, syllables, words, phrases, and sentences that comprise their native language. But beyond the first years of life, second language acquisition often happens very differently. Older children and adults do not usually have the same amount of time to devote to language learning, and they do not usually experience the advantage of fun, constant, one-on-one interaction with native speakers. Instead, they often find themselves in a classroom, where they get a small fraction of the language practice that infants and toddlers get (Lew-Williams & Fernald, 2010). In classrooms, words are defined for them and grammar is described to them. Defining and describing can be effective, but they are not as powerful as discovering language from the ground up. This case can be applied to the French language in the Algerian society, where French is communicated outside the school, for instance the television and the radio, the newspapers and sometimes they see it on the parents themselves, which would have a deep impact on the child receptive skills.

CHAPTER III

Introduction

As a result of its particular history, Algeria has developed a complex linguistic profile with Arabic and its regional varieties in most of the country, Berber dialects in a number of areas and French as a functional secondary language, a legacy of the colonial period. This language situation gives rise to serious problems that warrant a special study. And one of these major problems is the disregard of English as a mean of communication, and a goal to reach for students. Algeria can be considered an approximation to a bilingual and diglossic nation. The majority of Algerians could be considered bilingual and diglossic to a certain degree because they speak both Arabic and French and because of dialect adjustments that many people make when moving to different cities. Arabic, French and all Algerians dialects, including Berber varieties, constitute a real mosaic which allowed in a way the expansion and maintenance of French in Algeria.

Today's linguistic situation in Algeria

Algerian bilingualism signifies a particular linguistic characteristics. It is practiced in different ways by the majority of Algerians, by intellectuals as well as illiterate people. Therefore, the Algerian population can be divided into several sociolinguistic strata: educated, uneducated and semi-educated bilinguals.

Educated bilinguals: they speak both the local dialect and standard French. This is defined by Meillet (1934) as 'le bilinguisme des hommes cultivés'. The two languages play different parts in their lives. Ordinarily, the dialect is the home language while the other serves a wider range. Moreover, some educated Algerians are multilingual for they speak Arabic, Berber and French, and use them in different domains. However, not all Algerians speak Berber except those who have it as their mother tongue. Educated bilinguals show a Gallicized life style (to become French or like something French). Such bilinguals are members of the medical and educational professions, civil servants, etc. Their French has several characteristics, particularly at the phonological level, that is to say, in many cases it is very difficult to distinguish between a French native speaker and a French educated Algerian.

Uneducated bilinguals: Colonialism has been conducive to a great number of illiterate people. Approximately 80% of the Algerians population could not read and write after independence. Nonetheless, among them we find bilinguals (see types of bilinguals in Chapter 2). It is clear that all of them speak a local dialect (either Arabic or Berber). So, when and how did they acquire French?

During colonialism, the dominant language, French, was used by the rulers and by those who were 'serving' them. They were either workers on their own lands, or home helps. Their minds were conditioned to French attitudes and even to the French language. This group of bilinguals, generally of peasant or working class origin, regard French very much as a foreign language, unlike the bilinguals of group one. Their French pronunciation sets them apart not only from native speakers, but also from the bilinguals of group one. In this second case, the term bilingualism is not used in the sense of equal facility in two languages but, is understood to begin at the point where the speakers of one language can converse without problems with the speaker of another language. Proficiency in both languages is not a necessity. The main point is the production of meaningful utterances in the other language. Thus, what we require from a bilingual is not a degree of perfection in both languages but just a sufficient communicative facility by means of the other language to conduct daily language, which is the case of most uneducated Algerians who understand French even if they

don't speak it, but use some French words adapted morphologically and phonologically to Algerian dialects, to make themselves understood.

The problem will increase if we consider the third group: semi-bilinguals.

This group consists of bilinguals whose fluency in French is non-existent but they are typically of the same social background as those of group 2. This group is bilingual in the sense that its members speak both MSA (*Modern Standard Arabic*) and Berber.

A further aspect of Algerian multilingualism is observed in a lot of daily conversations among youngsters. Very often, elements from either Arabic or French, Berber/French, or MSA/ French are mixed in a conversation to such an extent that it is impossible for either an Arab hearer or French listener to identify the spoken language.

At the moment, bilingualism in Algeria could be defined as an unstable situation. It is a temporary state, because of the promotion of MSA by the mass media and the arabisation program; that is to say, Arabic is replacing French everywhere, a process described as 'subtractive bilingualism' by Lambert (1978).

Boyer argues that Algeria is a multilingual country where French and Berber still remain a source of political conflict. Moreover, Gallagher thinks that the policy of arabization requires a very determined effort and will take at least a generation. He declared that: "French is the language of Algeria, and there is no mistaking".

While French was the language of 'French Algeria', it is still to a large extent, the language of 'Algerian Algeria'. However, Arabic is flourishing and French, mainly the language of the nationalist elite, will one day be replaced by another Algerian language but on timing there is uncertainty 'Algerian socialism', as Ben Bella has declared, "will not be valid unless we acquire the dimension [Arabic] which we lack..

Moreover, it is important to mention that nearly 20% of the population speaks Berber dialects. There is actually a great deal of variation in the way in which Algerians speak and use either Arabic or Berber. Furthermore, these linguistic developments are enhanced by social boundaries.

The national and official language is Arabic, the first language in schools. Television programs are either in Arabic or French. Newspapers, magazines are either in Arabic or French. Berber has no official status

in Algeria, but those who speak Berber defend their language and want to be taught at school. However, it has recently been declared as a national language by the government.

As already mentioned, not only is the linguistic situation in Algeria bilingual but also diglossic. MSA is in a diglossic relationship with conversational varieties. Particular functions are assigned to each variety of the language. In the Algerian case, the high style is written and is compulsory for certain purposes. Here is a sample of situations, with indications of the appropriate form of the language to be used in Algeria:

High form (H)	Low form (L)
Al-fusha MSA	Algerian dialects
Official language of the country Political speech Religious activities Newspapers Education	Mother tongue Used constantly in all ordinary conversations Folk literature Daily street speech, market.. .etc

Table 1: Functions of H and L varieties

Algerians normally adapt the language to the situation. Depending on their experience, they learn to adapt their speech according to the hearer, what they are talking about and to whom. But one may only use MSA in daily speech for greetings, for example when people meet each other they say: [’assalaamu ‘alaykum] or when they want to thank a person they say: [baaraka allahu fik]; MSA is used in religious sermons of Friday given by the Imam of the mosque (Masjid).

A person who has learned to speak the High variety (MSA) fluently and accurately will not use it in a purely conversational situation because it would be felt as dull. Conversely, a speaker of Low language (Algerian Arabic) will not use it in a formal situation; otherwise he will be an object of ridicule and criticism.

In Algeria, MSA is considered as High style and is called ‘Al-fusha’, whereas the Algerian Arabic dialects are regarded as inferior, and are called ‘Addaridja’. The superiority of MSA is connected with Islam. Indeed, Classical Arabic is the language of the Qur’an which constitutes the entire Arabic grammar. Concerning grammar and lexicon of MSA, Ferguson (1959:33) says that “In diglossic communities the high style may have striking differences in grammar and in word order, and in the area of the vocabulary the high style may have a much more learned and classical lexicon than the low”.

In Algerian Arabic, we feel a high frequency of words assigned to low status. The low variety is not written and we observe considerable variation in the pronunciation, the grammar and lexicon. For instance, in MSA the H word for 'see' is /ra'aa/, the L word is [shaaf]. The H words will never be used in ordinary conversation. Similarly, the L words are not normally used in formal settings or in the written Arabic.

Algerian diglossia is characterized in particular ways. Some people want to use their dialect as a real North African language. They do not use MSA. The principal argument against MSA seems to be that it is difficult to learn and to write. Because Arabisation has been implemented in Algeria, a potential diglossic situation has arisen. This situation already exists in other North African countries. To succeed in arabising the country, we need to fill in the gap which separates the written and oral Arabic languages, which is not an easy task because of the diversity of the various dialects.

In addition to the Algerian diglossic problems, the existence of French does not facilitate the linguistic situation. Attitudes towards languages are very difficult to measure and are not always the same. In what follows, we shall deal with people's feelings and attitudes towards languages.

Attitudes to the languages in contact

Attitudes in bilingual situation are very different; Rubin (1968:15) calls attention to the fact that:

A bilingual situation may be expected to produce different types of attitudes; some reflect emotional value of a language for its speakers, others the value of a language from a social or group point of view, still others reflect its value from the point of view of formal attributes.

All the three types of attitudes may be encountered in the Algerian context. The first type may reflect the attitude towards both varieties of Arabic as well as Berber; the second type reflects the attitudes towards both Algerian mother tongues, the third type reflects the attitudes towards French and even those towards Classical Arabic.

Nonetheless, this does not imply that there is always a one-to-one relationship, because when analyzing attitudes to languages in Algeria, we are often faced with a contradiction which may originate from the cultural ambivalence of most Algerians (Dendane, 2007). Indeed, most Algerians are ambivalent in their feeling about almost all the available languages. That is, in spite of the stigmatization of the Low variety, most Algerians are proud of their mother tongue, a natural tendency to language loyalty. People are also proud of MSA, the language representing a symbol of their religion. But at the same time, they do not deny the importance of French, a language that they consider as prestigious and often associated with a high status in education.

Bilinguals and multi-linguals have various attitudes to each language. A bilingual may feel his native language to be better in some respects but his other language(s) better in others. Indeed, he may feel his mother tongue to sound better but another language to be clearer in expression.

Social variables related to bilingualism

Previously in chapter 2, we have discussed types of bilinguals related to individual variables, mainly competence. Various other classifications are possible depending on variables such as language usage and cultural identity (Bhatia and Richie, 2004:118). Other factors such as age, educational background, attitudes and motivations may be seen as variables influencing bilingualism.

Acquiring another language from infancy is not the same as learning it as an adult. Psycholinguistic studies show that early bilinguals are much more at ease with the languages that they have learned than an adult in learning another language the effort made being greater. Penfield and Roberts (1959) explained the facility attributed to a child for their greater cerebral plasticity than adult difficulties (In Hamers and Blanc (2000:74). Age plays an important role in acquiring a second language; native-like fluency in L2 of a bilingual child is more developed in pronunciation for instance than a bilingual at a later age, who may never achieve this native-like pronunciation.

Bullock and Toribio (2009) distinguish 'true' bilinguals as those who have been exposed to two languages from early childhood, and thus possess advanced linguistic and communicative abilities in both languages. This is true in our society, where fluent bilinguals are those whose parents gave them a bilingual education or simply those who lived from birth in the colonial period and had contacts with French-speaking people.

However, all kinds of bilinguals try to master as much as possible their second language because of their positive attitudes towards this language. We have noticed that there are two kinds of bilingual students in Algerian Universities, those we can classify under the labels proposed by Fishman (1977): 'folk' and 'elite' bilinguals. A category of students tend to change their language and use French more frequently, because they feel their spoken language has a lower status in the society. The dominant language is used by 'elite' bilinguals who master another language or dialect which gives them more value than the 'folk' bilingual. Students very often shift from their own dialect (AA) to French especially when they speak with other students or when their own dialect is socially stigmatized. As far as bilingualism is concerned, students' attitudes towards AA or Fr are influenced by different cases or behaviour; bilingual students may use French when speaking about studies and/or because they are ashamed of their dialect (because his/her dialects is stigmatized), and they may use simply their native tongue AA, and probably sometimes switch to French.

Indeed, we have seen that some Algerian children start school with more control of French than others. Consequently, these children develop different attitudes toward Arabic and French. These are social in origin

and may be considered as the result of parental influence and then social class membership. Therefore, the children's motivations vary as well.

As French is a language used in some higher studies in Algeria, students are motivated to learn it; but it is clear that many students do not master it once at the university. They only have some poor knowledge and utilize some words or phrases that they acquired in their childhood. According to their proficiency, students' motivation and attitude differ; those who were interested in that language during their earlier studies, French is no longer a difficult language and they have no problems, whereas those who were not motivated and gave no importance to this second language, find difficulties and perhaps keep negative attitudes towards it.

The national problem: Arabization

Language is usually identified with national pride, honor and prestige as well as with tendencies toward national survival. Linguistic differences are sometimes a source of international misunderstanding and a block to peaceful and useful action. Nonetheless, the main reason for adopting a national language is its function as evidence of unity, solidarity and complete acculturation within a country. Therefore, a return to one's culture including the national language was necessary after independence and will progressively suppress the feeling of inferiority.

In Algeria, the importance of learning Arabic has been stressed, since it has been adopted in the constitution as the official language of the country. Standard Arabic is expected to become a sort of lingua-franca of the country. It is therefore stressed that a common language like Arabic, will promote national unity and solidarity. During the whole colonial era, Arabic declined and vegetated. Today in all the Algerian department, state schools are found everywhere contrary to the colonial period. Arabization is an essential part of the schooling program but French still has its importance and status in Algeria and the ex-minister of education, A. Taleb Ibrahimi mentioned that we should not destroy our acquired colonial knowledge, but we should make the most of it.

During the colonization, the majority of Algerians received French education; however, to use the language of past oppression as a dominant medium of instruction or communication would be felt as a national shame. After independence, Algeria faced the great problem of language. In Algeria, where different languages and numerous dialects have coexisted during many years, it would be convenient to have one language.

The Algerian government wanted to restore its Arabic-Islamic patrimony by implementing the arabization process to unify the Algerian people after 130 years of instability, war and lost identity. Speaking about preserving the national identity, the previous president Houari Boumediene (who died in December 1978) claimed - addressing himself to secondary school students, and explained that Algeria:

Ce que nous ne saurons trop vous conseiller, c'est de sauvegarder la personnalité Algérienne. Il est vrai que l'Algérie est située entre deux continents. Elle appartient en effet au continent Africain mais elle se trouve aux portes de l'Occident. Nous faisons donc partie d'un continent arriéré en voie de développement et nous avons en face un continent qui a ses qualités et ses personnalités. Autant nous sommes ouverts aux sciences et au progrès que nous ont apportés les nations qui nous ont devancés dans ce domaine, autant nous devons être soucieux de conserver notre personnalité et nos valeurs et autant nous devons faire pour préserver notre patrie et renforcer ses bases.

Thus by virtue of its history and language Algeria is Algerian. Our past and present, our culture and civilization prove that we are Algerians. Underdevelopment is caused by man himself. The preservation of our culture will help us avoid being a population without soul and history.

However, teaching French or other foreign languages is not excluded. It is one thing to be nationalist, quite another to be chauvinist or isolated. To bring out this last point, here is a passage of 'La Charte Nationale' (1976: 66) in which it is made clear that the 'return' to the national language and its necessary adaptation to the society's needs do not rule out a strong encouragement of the acquisition of foreign languages. The point is to preserve our identity while opening up to others in order to understand their culture, to know their languages to communicate with the external world and to reach sciences and modern techniques.

Cette récupération totale de la langue nationale et sa nécessaire adaptation à tous les besoins de la société n'excluent pas un ferme encouragement à l'acquisition des langues étrangères. À cet égard notre idéal le mieux compris est d'être pleinement nous-mêmes, tout en nous ouvrant sur les autres et en maîtrisant, en même temps que notre langue dont la primauté reste indiscutable, la connaissance de langues de culture qui nous faciliteraient la constante communautaire avec l'extérieur, c'est-à-dire avec les sciences et les techniques modernes et l'esprit créateur dans sa dimension universelle la plus féconde.

Thus, the re-evaluation of our culture is necessary with a wide window opened to the modern world of sciences. The Algerian population should try to maintain a distinctive style of living by preserving its habits and

language. This preservation, reflected in the process of Arabization, constitutes the best means of protecting their original identity. Being the essential tool to restore the Algerian identity, Arabisation is necessary.

Arabization in Algeria was necessary after independence. However, it was not an easy task to achieve. The reason for this is the connection with the ‘colonial cultural impact’. Colonialism, during one hundred and thirty years, did all its best to suppress Arabic as a working language in Algeria. The object was to deprive Algerians of their culture and replace it by French civilization. It is a miracle to see that Arabic and Berber survived after Algerian independence. However, after so long, the re-establishment of Arabic as the national language is too delicate to be hurried. This is introduced in Taleb Ibrahim’s speech when he said that:

“Arabization is essential but it must not be rushed or chaos will follow; ‘witness’, he said, (Gordon, D.C: 191).

Thus, Arabization should have taken place progressively. The next factors which deepen the difficulty to Arabize the country is related to teaching. In Algeria where more than 80% of the population were illiterate, and in starting arabizing the country, teachers were not qualified and it took time to train teachers for primary, secondary and university levels. Between the age of six and eleven, the children were trained properly in Arabic.

Another drawback is presented as follows: a lot of Algerians are hostile to the Arabic language. They cannot free themselves from the French language and even its culture. This group is represented mainly by intellectuals who regard Arabic as a language for common people. One of the many contributory reasons for this might be perhaps the shortfall in Arabic teaching beyond primary level.

Gender is also another important factor; we have observed that French is used more by girls than boys. Girls, associate French with freedom, modernism, equality and prestige. They avoid the Arabic language because it symbolizes frustration and inequality for women.

As a result of the colonial era and the policy of Arabization, two groups of intellectuals have developed in Algeria; the French words are used here for this is the way the groups were referred to:

- The ‘Arabisants’
- The ‘Francisants’

The first group is closer to Islam and less open to the modern world because of their pure Arabic education, that is, they learned Arabic in Qur’anic school which was called ‘Medersa’, where they learned the Qur’an by heart with a very old method, and they did not adapt to the French language during and after independence. On

the other hand, the second group, represents those people whose native tongue is Arabic but they learned French during colonialism and therefore they are called the 'Francisants' because of their French education.

Nowadays, these two groups are easily differentiated. The 'arabisants' are those people who could tell you the entire French colonialism story and who, to a certain extent, have a negative attitude towards the French language. However, they might understand many French words and expressions but they are not able to speak neither to read French like the 'Francisants'. These latter have more control in French and they are considered as perfect bilinguals since they could read and write in the French language. Consequently, the split between those two groups made after the split between two kinds of bilinguals in Algeria. Thus, different kinds of bilinguals exist according to the French education and therefore their motivation and attitudes towards the French language are somewhere traced.

The official position of Arabic and French in Algeria

At different points in the history of Algeria, official policies acted decisively upon the language concerned. The status and function of languages in Algeria were and still are determined by the government. The shift from Arabic to French has been initiated by the conquerors. Similarly, the re-arabization of the country has been imposed from the top. In Algeria today, there is an official policy which is in a sense bilingual. However, at the same time, we observe a clear move towards the establishment of a monolingual state. Indeed, there is a general riposte of the 'Arabisants' against the diffusion of French, particularly because of the persistent use of French in a number of channels, including the media, the arts and, of course, education, as explained in what follows.

The Mass-Media

■ Daily newspapers

Nowadays, many daily newspapers exist in French and Arabic, and people readings depend on their preference and/or competence which language they are at ease with. For example, Le Monde, sells 60.000 copies per day. Al Moudjahid, Le Quotidien, La Republique, L'Expression, El Watan, are written in French and : El chaab, El Djoumhouria, El Nasr, are written in Arabic, so there is choice between the two languages, and nowadays even AA is written in Latin script (for social entertainment) in some newspapers, for bilingual readers.

■ Radio

Radio broadcasts too are in French and Arabic. There are many networks, one of them broadcasts in MSA, and some of the programs are in 'dialectal' Arabic. Another one broadcasts mainly in French, and the third channel broadcasts in Berber.

For residents of rural area, the radio is the most familiar medium of mass communication with programs in Arabic dialects and Arabic music being the most popular.

- Television

TV programs are either in Arabic or French. It seems that the only period of the year when there is a tendency towards the supremacy of Arabic is Ramdham (Fasting period of the Muslims world). Indeed, this is due to the various programme such as the life of the prophet, etc.... Otherwise, news, cartoons, films, instructional etc... are delivered in French or Arabic channels.

Culture

- Literature

The majority of publications are in French but several distinguished works have appeared in Arabic.

- Theatre

The Algerian National Theatre, presents a number of popular plays in Arabic, mainly with revolutionary themes. Algerian Arabic has occupied a significant place in the total artistic production of the country and appears principally in popular plays, songs, and films. Films such as 'La Grande Maison' based on the book written by Mohamed Dib are very popular within the country.

However, recently in many important departments such as Oran, Tlemcen, and Constantine; the Cultural French Centre opened its door with France convention and proposes many social and cultural activities, for example: test of proficiency in French, miscellaneous books in French literature and also theatre plays in several themes performed in French.

- Concerts

Classical Arabic music called 'Andalous', popular Arabic music (mainly in Algerian Arabic) such as Raii songs, and all the revolutionary songs are in MSA.

- Cinema

The language in which films are shown is in French and some films are in Egyptian or Lebanese Arabic; a great number of films are imported. American films are dubbed in French, and all the French films are shown in French. Arabic films are shown in the language of the country from where they have been imported. Finally, all Algerian films are shown in either French or Algerian Arabic, or in both.

Education

Algeria devotes a considerable part of its national income to education, which is regarded as a national priority sector. One of the fundamental motives of the national educational 'policy' is the 'Algerianization' of the personnel and the progressive 'Arabisation' of education. MSA is the language of the medium of instruction in Algeria. Children acquire their mother tongue at home but MSA as the language of education from primary school to university.

Today, French is taught as foreign language from primary school until University. Knowing that French language is used directly or indirectly in the Algerian speech community, and that it is taught in schools, used by most intellectuals as a prestigious language; some Algerians are acting against the coincidental bilingualism, whether this is positive or negative they have negative attitudes towards this language.

A glance at the school curriculum helps us to see that French and Arabic are still competing for the first position in education. However, the situation is constantly evolving in favor of Arabic, as French is still considered as a foreign language even if it is the second language used in Algeria. Bilingualism is firmly established, in that both Arabic and French are widely available and desired.

The medium of official Governmental communication

The Algerian government was the first unit to adopt MSA as the medium of communication. Mastery of Arabic has consequently become vital for Algerian politicians. This meant intensive training in Arabic for most of them, since a great number of our ministers received education in French. Arabic is the language used officially in all politicians' speech, although, Algerian Arabic is often substituted unofficially.

Arabic is the official language of the legislature courts. All court cases must be recorded in Arabic even though the actual proceedings are in Algerian Arabic.

More evidence of the existence of the French language is the fact that many public documents including the constitution are written in Arabic and French. The main reason for this is that a large proportion of the

educated population is not able to function efficiently in Arabic. Consequently, there is still a large amount of bilingualism in the political domain, even though this may not be apparent at first glance.

We may conclude that French and Arabic are competing at all levels. MSA is progressively gaining ground but it will still take some time before it can be said effectively to play a practical role of a national language for Algerians.

On the other hand, Algerian Arabic is rather extensively used, compared to Berber which is hardly used at all in official functions. Indeed, the position of Berber-speakers is curious. There is no question of their being underprivileged as individuals, or under-represented in the elite. At the same time, there is the pretense that this bilingualism does not exist. Officially, some lectures at university are done in Berber language.

Present day community in Algeria

In Algeria, the three languages French, Arabic and Berber have coexisted for the past hundred years. All three languages have a different origin and not much in common historically. All of them, however, are part of the Algerian culture, even though they are the expression of contrastive trends within the socio-cultural heritage.

Classical Arabic (MSA)

Classical Arabic, which is the language of the Qur'an, was simplified to Modern Standard Arabic for the medium of instruction and for some formal conversations with the Arabic world. Today in Algeria, MSA is officially recognized as the country's national and official language.

The use of Arabic in administration and political matters created problems for the population. French educated people worry about their future, and as a result, they constitute an opposition to Arabization. We do not think that the Arabisation campaign should worry them, as Algeria will probably be arabized one day, but this will take time. Meanwhile, Arabic is becoming the dominant language at the written as well as the oral level.

AA (Algerian Arabic) consists of a considerable number of dialects. Both Arabic and Berber dialects have an extensive oral literature. People are fascinated by the different types of Arabic that are spoken in different parts of Algeria. Most of the time linguistic variation is not only a matter of pronunciation, but it also shows in grammar and vocabulary. This sort of variation as found in Algeria has a regional basis.

However, there is also some variation where is not regional. For instance, in a locality such as Biskra which our study takes part, we observe that people from different social background speak different dialects.

French

Though the French left Algeria a long time ago, their language has not. This is so at a number of levels and works differently in Algiers. In Algeria, French was inherited from the colonial power and became the language of the bureaucracy. Statistically, Algeria is the most francophone country among the old colonies (Calvet, 1974, p219). But who speaks French in Algeria?

In 1969, 81.5% of the population was Arab; 17.9% Berber; 0.4% French and 0.2% other nationalities. Of these, 74.6% were illiterate; 5.5% were educated in Arabic; 8.9% in French; 10.6% in French and Arabic, 0.4% in other languages. Thus in a country where approximately three quarters of Algerians were illiterate, 20% of the population could write and read French in 1969.

After forty eight years of independence, let us consider the position of French in Algeria. In Algeria, as well as in Tunisia and Morocco, there is an oral and written French culture of high quality. It is spoken by many students and French educated adults, in particular in the cities. Every year, a great number of Algerians immigrate to France in search of work. Migration to France has continued up to now, to fill France's reconstruction manpower need. These emigrants constitute a means in favor of the diffusion of the French language. The maintenance of French is due as well to inter-marriage. All those factors will maintain the coexistence of French besides Arabic for years. French is still predominantly used in administrations everywhere.

Considering the plurality of the Algerian languages, it would be interesting to ask such a question: what is the mother tongue of Algerians?

A great number of Algerian students, when asked about their mother tongue, were puzzled and did not know what to answer. French is the language they learned since the age of 5 or 6, with parents, friends, outside home, etc. This is the one they learned from the family. Some Algerians ignored completely the use of French language in their society; others unconsciously used only some French words and for the majority of students, AA is their mother tongue but it represents a mixture of MSA and French.

Berber

The Berber branch of Semitic Hamitic is known from the ancient times through inscriptions in the Libyan language from the 4th century BC. The Arab invasions of the Maghreb did not completely arabize the indigenous Berber population. In Algeria, 29% of pure Berbers remain concentrated mainly in Kabylie.

The most important of the language areas in Northern Algeria is that the 'Great Kabilie', East of Algiers and extending as far as Bejaia. It is in this region that the speakers of Kabyle are found. Slightly south and east of this area in the Aures, the region in which Chaouia is spoken. In the southern part of Algeria there are also isolated communities of Berber speakers. It is difficult to classify the Berber dialects in terms of the overall structure so that Mozabit, Ouargla, Tougourt, and Gourara have been treated as isolated dialects with a clear relationship to each other but with their status as languages or dialects not clearly defined.

Further South, the area in the area of Touareg and Tit are usually classified as distinct from both this group and from that: the Tuaregs. The largest group of Berber speakers in the South consists of the various group of Tuaregs. Thus Berber is represented by various dialects such as Chaouia, Mozabit and Kabyle. There is actually a great deal of variation in the way these speakers speak and use Berber.

The problems of the multi-lingual Algerian child

This part of the study seeks to explore the situation which leads the child to become bilingual. Children growing up with two or more languages soon after birth are generally subject of research topic and this over the past two decades involving mainly linguistic or psycholinguistic studies. If monolingualism reflects the normal behaviour of language development, consequently bilingualism will lead to contradictory assessment of the bilingual child. In this respect, Meisel (2008:91) says that "the child exposed to more than one language during early developmental phases might be confused linguistically, cognitively, emotionally, and possibly even morally"

Serious problems of a multi-lingual child concerns mainly parents, educators and geographical situations. However, cases where children are raised in a bilingual education by choice, bilingualism is not a social necessity but rather a personal choice and this can be the case of immigrants, bilingual couples, etc.

In Algeria, where Conversational Arabic is the native language, and most Algerian children speak it knowing that it is full of French expressions. However, there are some families who raise their children in both languages Arabic and French. These children become bilingual and consequently at ease with French.

Generally, children learn French as a second language at secondary school and perceive it as a foreign language, except those who are bilingual from infancy.

Once at university, many students have difficulties with French matters, and are not proficient in either language, that is, for them Arabic is a very complex language and French is a foreign language that was not well taught previously. Problems of French use start from an early age among students. In fact, active bilinguals are fewer and the majority are considered as passive bilinguals, and it has been shown that the role of the family is very important in bilingualism.

The role of the family

It is very difficult to assert what is the universal language spoken in the Algerian home, since this depends on various factors. Therefore, here again a division between at least two groups is necessary.

a-What is the mother tongue of the children of the intellectuals?

In this case, the parents are either French dominant or master two languages (French and Algerian Arabic).

In some cases the Algerian child, up to the age of 6, is exposed mainly to French. From the mother he learns French nursery songs. Even if the parents are from different language backgrounds, they tend to use more French than Arabic when talking to the child. At the same time, he is inevitably exposed to the native tongue through grand-parents, home-help...etc, and Modern Standard Arabic through cartoons and Arabic TV channels...etc.

Thus, the child hears both languages from the start. However it appears for more than a year after he begins speaking, he has only one language system consisting of an Arabic base that includes much French material. The acquisition of this language, which we might call 'Algerian language', is a process of unconscious habit formation resulting from imitation habits.

b-What language is the most commonly spoken in the home of ordinary people? Algerian Arabic (or a Berber variety in some areas), of course, as it is their mother tongue. However, childhood bilingualism means the establishment of L2, French during the early school years, after the Algerian dialect has been learned in the family. It should be noted that they are exposed to MSA through school and TV, and Classical Arabic when learning the Qur'an.

The school

Primary school provides lessons of French as a second language from the third year onwards. The time devoted to Arabic instruction seems to be reasonable to make the children at ease in dealing with writing, reading, mathematics...etc. in Arabic. Until 1962, education in Algeria was elitist; therefore it was directed at a small number of people drawn from the educated class. Since 1963, however, it has become much more widespread. Furthermore, education is now universal and compulsory and available to all. While the educational standards in the narrowest sense may be seen to have declined, the overall standard of literacy and numeracy in Algerians has increased in marked and demonstrable fashion. Although education aims essentially at the social and cultural advancement of all Algerians, we observe a general lowering of standards.

A lot of Algerian children seem to grow up with the mastery of two languages apparently learning them with ease and without great social and educational effort. The child has a double adjustment task, since he operates in two different linguistic frameworks. His task is to switch back and forth from one language to the other. He must know the language of the home and imitate kinship circle but he also knows the language of the outside world, the school and the playground.

As the child grows up, he progressively discovers that the two languages differ in social acceptability. Thus according to the social parameters the child grown up in, preferences of what language or what words he uses depends on the milieu. The 'inferiority' of the mother tongue becomes prominent to an adolescent who will develop an inferiority complex. It is the parents' obligation to give historical and human evidence why individuals should retain their native language whatever its cultural and linguistic values and this in order to maintain the child's social position among his community and also to assure and protect his confidence in himself and his people. Unfortunately, this is not an easy task since not all Algerians parents have been at school.

Political conflict between two languages

According to Weinreich (1953), two or more languages are said to be in contact alternately by the same person (quoted in Ditmar, 1976). Arabic and French are largely used side by side in Algeria, and AA is full of words and expressions, but even a whole discussion can be heard in French. Algeria is the only country among the Maghreban ones which has not joined the 'francophonie institutionelle', though it is the second francophone country over the world (Safia Rahal, 2001).

The sociolinguistic situation in Algeria is complex; if we consider French and Arabic; knowing that Arabic (MSA) is the official language and French still has an ambiguous status in Algeria as Caubet (1998: 192) explains:

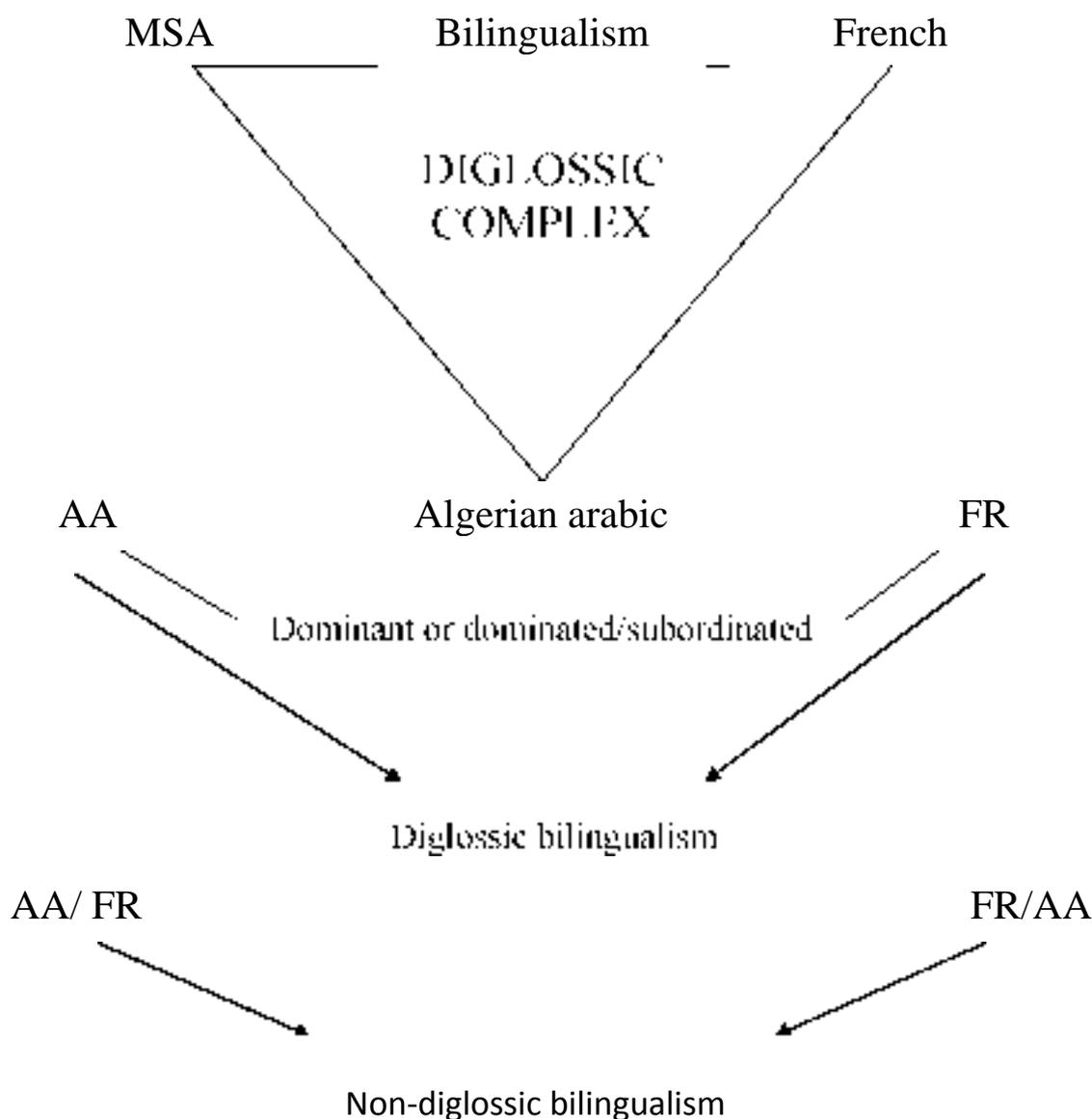
French as the language of the ancient colonizer has a very ambiguous status: on the one hand, it attracts official contempt (it is officially considered as a foreign language to the same extent as English) but, on the other, it is synonymous of social success and of access to culture and modernism.

This disguised conflict of French in Algeria arose many sociolinguists' interest, and is still unclear in the Algerians' mind. When explaining political conflict between two languages, Boyer (1996: 120) gives the following definition, which he says is the famous definition given in the congress 'Cultura Catalana' (1978), insisting on the fact that there is linguistic conflict when one language is politically dominant and the other politically dominated:

Il y a conflit linguistique quand deux langues clairement differenciees s'affrontent, l'une comme politiquement dominante (emploi officiel, emploi public) et l'autre comme politiquement dominee. Les formes de la domination vont de celles qui sont tolerantes sur le plan politique et dont la force repressive est essentiellement ideologique [...]. Un conflit linguistique peut etre latent ou aigu, suivant les conditions sociales, culturelles et politiques de la societe dans la quelle il se presente.

From Boyer's explanation we can say that in Algeria the linguistic conflict between French and Arabic is ideological. While all Algerians use AA, in its different forms and MSA is the linguistic norm of formal speech and the medium of instruction (diglossic situation), French is a social praxis used by Algerians in many required situations such as functional communication (at university, administration and governmental fields). Thus, the political conflict between French and Arabic in Algeria is still ambiguous, because even if French plays an important role in Algeria and is used in many domains, it is not recognized as a second language and thus politically dominated by MSA.

The Algerian sociolinguistic landscape is complex when we consider MSA, AA and French. If we apply the concept of Fishman's extended diglossia (1967) in the case of Algeria we can summarize this concept as follows:



From this diagram specially adapted to the Algerian case, we can say that in Algeria, diglossic bilingualism exist between French and AA, that is to say, when speakers use French language as a ‘dominant’ language and AA as a ‘dominated’ language in some situations; students tend to use French when speaking about their studies and neglect AA to a large extent in this situation. The diglossic ideology in Algeria depends on many individual and social variables. As seen in the diagram above, a non-diglossic bilingualism exists. For instance, if a speaker is competent in both French and Arabic and uses them alternatively in everyday speech without any problem that is, switching between French and Arabic the bilingual person here is in a non-diglossic bilingualism situation. Furthermore, Arabic, French and AA are in a diglossic complex. AA is a hybrid language deriving from MSA and includes many French words often adapted to Arabic morphology and phonology.

Conclusion

In speaking about the linguistic situation in Algeria, the French language is the central nutshell of discussion. Bilingualism in Algeria has been complex since independence. Today, this linguistic situation makes the richness of Algerians.

The real conflict which opposes French and Arabic language in Algeria is not linguistic but rather political. This bilingual linguistic policy adapted by Algerians is seen as a barrier by others and the situation remains somehow ambiguous.

However, the split between Algerians sociolinguistic situation is prominent. That is, two kinds of bilinguals exist in Algeria, whether speaking about the generation before Algeria's independence or those after. The distinction between 'educated' and 'non-educated' people is crucial in defining Algerian bilinguals. Thus, using some French words in the daily speech of Algerians does not mean that the person is bilingual. Those bilinguals have perfect mastery of the French language and use it when the situation requires its use, and by this overview we can agree that the linguistic situation in Algeria is very complex and the English language would have a difficult time integrating itself in the Algerian academic or social communities regardless of the starting age or resources allocated to integrate this Language in the school or the community.

CHAPTER IV

Introduction

This chapter aims at observing the effects of our hypothesis whether and to what extent the starting age of the second language instruction can affect the outcome proficiency level? For this purpose, a classroom observation was conducted as a tool to collect the data (in the form of three activities for each the French and the English language). The selected high school is Alarbi Ben Mhedi Biskra, and I selected Third year students to perform my observation, the analysis of the activities was undertaken in the form of a description of the results. Explanation of the results was also provided in some cases as to why some aspects and uses of language is better than others. As was explained in Chapter 3 the French language was included in this work for the deep roots that it has in the Algerian community, and because it remains a foreign language the same as English its consideration would help us evaluate the suggested hypothesis.

Population

The Sample

In order to investigate the research questions mentioned before, a group of third year of high school were included in this study. The subjects consisted of a total of 50 aged between 18 and 19, the subjects were provided three separate activities in English and three separate activities in French, all the subjects had started instruction of the French language at the age of 08 (10 years of instruction up until the current research date) and started instruction of the English language at the age of 11 (7 years of instruction up until the current research date).

The linguistic background of the students:

As seen in chapter 3, we can distinguish Arabic and French as dominant languages in the Algerian student

Arabic (mother tongue)

In Algeria, the linguistic situation is such that we can distinguish three essential varieties of Arabic: Algerian Arabic, Classical Arabic, and Standard Arabic.

Algerian Arabic is the most widely spread form of Arabic; it includes lexical and phonetic regional varieties. This language form includes a great amount of Arabic vocabulary and Berber syntax. This is the result of the contact of classical Arabic and the various spoken forms of Berber during the spread of the Islamic civilization over the North African territories invasion (Cheriguen, 1992). In terms of vocabulary, we note a great amount of borrowing from French. This is the result of the French colonisation that has lasted for a century and a half. After independence, this form of language -Algerian Arabic – could not become the official language of Algeria because it has no written form

(Bouras, 1999). Speaking about the evolution of Algerian Arabic, Laraba (1992,96) says:

It is interesting to note the growing tendency to find lexical and structural elements from colloquial Arabic in informal writings such as correspondence.

In spite of its non-official status, this form of language represents the everyday language of the vast majority of Algerians, whether educated or non-educated. It is without contest, the major medium of oral communication throughout the country. Even Berber, the original language of the country, could not compete it. Referring to this point, Redjala M'Barek (1972:112) says:

Neither Punic, nor Latin, nor even French acquired this privileged position of Arabic dialect which became popular in Algeria to the extent of usurping Berber's first place as a spoken language.

Classical Arabic is the language of the Muslim empire, Algeria became part of in the eighth century. It is the language of the Coran, also referred to as the holy language of God. This language form has maintained itself essentially in and through its written form (Cheriguen, 2002).

Standard Arabic is the new form of Classical Arabic. It is used in education, the mass media and the various administrations. It is the official language in Algeria. In fact, Standard Arabic is the result of the effect of modernization on classical Arabic. It is a kind of bridge between Classical Arabic and Popular spoken Arabic – Algerian Arabic. Referring to this form of Arabic, Laraba (1992:57) says:

Standard Arabic is both oral and written. It is the variety used in the mass media of communication and all formal occasions. What characterizes this variety is the overwhelming wish to speak or write classical Arabic. Indeed, Standard Arabic is a typical example of many deviations from classical Arabic norms and much admixture of colloquial Arabic.

French (foreign language)

When the French colonization of Algeria started in 1830, it found a rich and varied linguistic context including Classical Arabic, Algerian Arabic, Berber and Sabir (a mixture of Arabic, French, Italian, Spanish and Greek spoken in the port coast regions).

At that time, Arabic literacy was of about 40 to 50 % of the whole population. (Djite, 1992). Arabic was taught in the medersas (educational vocation) and the zaouias and mosques (religious vocation). But these kinds of establishments hardly survived the French policy, for example, the Jules Ferry law of 1872 stipulating that the French primary school was obligatory. In addition to that, the French language was becoming the language of administration and social promotion, reducing Arabic and Berber to the status of vernacular Languages. As Djite (1992: 17) states it: « The French imposed a system of direct administration, seized control of the educational system and undertook to displace Arabic”.

Since 1962, the date of the Algerian independence, many efforts have been displayed to bring back Arabic to its strategic position. A good example of this is the policy of arabization . In spite of this, it must be recognized that

French never disappeared from the Algerian linguistic scene. Up to now, for the intellectual elite of the country (especially those who have been educated in

French) French remains the most spontaneous means of communication in a professional environment. This part of the society is bilingual with a preference for Algerian Arabic as means of oral expression when dealing with local contextual realities (Lanly, 1962) and French for oral reference to scientific, technical or institutional realities .In fact, the quantity of language items coming from Arabic or from French will vary depending on the referee theme of the piece of expression produced. French will be the essential means of written expression for these people.

Concerning this aspect, Djite (1992: 2) says:

There is an overriding attitude of the elite who regard French as an “ habitude de société” a part of their culture that they find very difficult to deny. To this day many of them purchase parabolic antennas and transcoders to view French television programs.

It must be mentioned that in 2004, the French programs are no longer exclusive to this elite. They are now part of the everyday life of the whole Algerian community. The educational policy with its decision to introduce French earlier (2nd year) to the primary school brings back French to the cultural and linguistic scene more strongly than ever before (the rejection factor has disappeared because the colonization element is no longer characteristic of the French language). On the contrary, it seems to represent, in the minds of the people, a feature of modernization, culture and update.

Languages mixing in Algeria: Bilingualism and Borrowings

Arabic and French in contact in Algeria gave birth to a kind of transplantation of the language that goes beyond simple borrowing. This bilingualism has been practiced with the mixture of Arabic and French words within the limits of a sentence. This phenomenon is apparent in oral communication when reference to French terms with the topic involved is scientific, technical or institutional. When the reference of the discussion is a local reality, the amount of Arabic terms used will grow higher. The use of idiomatic expressions of one of the languages when the other represents the essential medium of communication can also justify the resulting mixed piece of language. This kind of language is used very spontaneously by the community without any effort or consciousness on the part of the speakers.

Borrowings and linguistic metamorphosis are sociolinguistic phenomena. According to Lanly (1962), the contact between human societies leads to an evolution of the values and a long modification of the forms. In agreement with this, Marcellesi and Gardin (1974) believe that when a linguistic fact involving when an old form of living or thinking is in contradiction with a new one resulting from social or economic change, the result will be a modification of the linguistic structure. According to Meillet (1924), borrowings are particularly notable when they occur between two very different languages. He says that the case of

Arabic and French is a particularly interesting one. In agreement with this, Cheriguen (2002) says that borrowings can take diverse proportions and that it would be difficult to delimit the range of vocabulary shared by the two speech communities.

The French language has deep roots in the Algerian community, therefore it is more than just another foreign language to be studied in the curriculum.

Description of the tests

For this present study, we devised three tests for each French and English, which makes a total of six activities, a grammatical judgment test and a dictation test and then the students are to read a paragraph to evaluate their speaking skills.

Grammar test

A grammar test that included a number of questions that tackled a various elements such verbs, negatives, WH questions...and the equivalent aspects in French, and that is to evaluate their grammatical judgment and the student's general knowledge of the basic elements in English and French also to examine whether or not they are able to manage to formulate or understand a sentence or phrase in both the targeted languages.

Dictation test

A paragraph was selected in each language (English and French) to be dictated by the teacher of the language, to evaluate the students listening skills as well as to examine their vocabulary and writing speed.

Reading of a paragraph

And last the students will be asked to read another paragraph (also in both languages) in an attempt to observe their speaking ability, to see whether they are fluent or not (speed, correctness).

Administration of the tests

Grammar test

The students undertaken a test in both languages that was combined of 40 sentences for each, those sentences were revised and corrected by the students in the regular session time which is one hour per test, the sentences were distributed into groups according to their categories (articles, verb tenses, nouns...), the answers were on the same papers of the test and they were collected by the teacher when the allocated time was concluded.

Dictation test

The students listened to two paragraphs that was dictated by the teacher of the language (a paragraph in English and one in French) and wrote the paragraph in the designated answer papers, the activity was conducted within the regular session time (one hour) and the answers papers were collected by the teacher at the end of the allocated time.

Reading of a paragraph

Another paragraph in each language was administered to the students, this time they were to read the paragraph out loud and were evaluated by the researcher (myself) and examined the level of speaking skills in each language, and that to observe the time spent by each student, and the number of mistakes committed during that time.

The results

Grammar test (English)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
English	50	2.00	17.00	7.9300	3.43305

Based on the results obtained from the first test undergone by the students, the results were varied between low grade like 02/20 and a high grade like 17/20 (see appendix E), knowing that the optimal mark is 20/20, but that does not change the fact that the general level of the group (in English) is relatively low by the mean (the average) of the results which is 7.93.

Grammar test (French)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
French	50	9.00	20.00	15.0200	3.46993
Valid N (list wise)	50				

Observing the results of the French grammar test, the variation is between 09/20 and an optimal score of 20/20, the mean obtained is above 15 and that is a double value of the English test mean, we can say that the general scores of the students were acceptable if we considered the optimal score mentioned above (see appendix F).

Dictation test (English)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
English	50	2.00	17.00	8.0800	3.41569
Valid N (list wise)	50				

The dictation test scores were not much different than the grammar test scores, they ranged between 02/20 and 17/20, also the highest score does not mean that the general marks were optimal, the mean on this test was 8, which is a low average, on (appendix G)

We can see that the majority of the students cannot write down a sentence or simply a word by only hearing it, and that indicates problems in listening skills and poor vocabulary.

Dictation test (French)

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
French	50	8.00	20.00	14.4200	3.28938
Valid N (list wise)	50				

From observing the French dictation test we can see the gap that exists between French proficiency and English proficiency, the highest score is 20/20 and the lowest is 08/20, but we can see the true difference between this test and the English dictation test in the mean score which is 14.42, and that gives an idea about the level of vocabulary as well as the advanced listening skills. For Individual results see (Appendix H).

The reading test

On this test I managed to evaluate by my observation the level of reading, and by that examines the speaking skill of the students, in this test I managed to see the true distance between the competences of French language over English language, the average reading of the French paragraph was far better than the one in English, the students took turns in reading, each student read a portion of the text and that is to conserve the time, and the French text was read over five times, while the English text was read only twice and that of course was within the session time which was one hour. The speed was not all that I could grasp from this test, fluency is about reading in a correct form and a fast pace and that was not the case of the English test where only three of the students manage to read their part without a long pause or a mistake in pronunciation, The French text on the other hand was relatively easier to the students and they all managed to read it fluently with few pronunciation mistakes that were made by four of the students, which led me to point the true power of the starting age of instruction or in the case of the French language the starting age of exposure.

CONCLUSION

Based on the results presented in this chapter, there was no test where the students scored better marks in English than in French, in other words the majority of the students had better marks in French in every test provided to them, and that does not considered a disbelief as we have seen in chapter 3, the students exposure to the French language starts not only in the third year of elementary school but even sooner, as soon as infants at home either from their family or several media outlets such as TV or radios...

This leaves us with English, as the students managed to work-out the grammar activities, they failed at both the dictation and the reading of the paragraph, which leads us to understand that the lacking in performance is due to the lack of interaction in speech and reading.

Although there were a number of instances in which the students received higher scores in English, but the difference was insignificant, because the overall results were clearly going towards the inferiority of French over English.

GENERAL CONCLUSION

In order to add the existing research available on the critical period hypothesis, this thesis investigated the possibility of such hypothesis to explain differences in second language proficiency from an English as a second language perspective. This study did not attempt to reach the full native-like attainment of the second language but instead observed the reached level of both English and French, as they are both considered to foreign languages who are of different family than Arabic which is the mother tongue.

In addition, the aim of this thesis was to investigate the influence of the amount of target language exposure on the acquisition of the target language proficiency through observing a targeted skills, by including subjects who are from the same region and share the same mother tongue and had the same amount of instruction in both the languages, but that can be a changing variable because the students could have an extra support in either languages from outside the school system, although that exposure can make a little difference if it was outside the starting age of the CPH if we considered Various studies like Kuppens when he argued that the effects of such exposure are minimal on learners who speak a native language that is different than the targeted one, passive exposure though for example, the media, prior to the critical period can result in better ability in the targeted language.

In order to structure this research, the following research questions were posed in the Introduction:

1. What is the current state of research in regard to the Critical Period Hypothesis in second language acquisition?
2. Are Arabic L1 speakers who are late learners of English able to achieve an optimal performance of English? In comparison to the French language which they started it earlier?
3. Would the consideration of the CPH in the Algerian educational system improve the student's language mastery?

Based on the results that were presented in research body, these questions can be answered the following manner:

1. The recent research into the age factor and the CPH that we presented discussed theoretical perceptions and overviewed studies inquiring into what late beginner adults can achieve. Also we discussed language policy and classroom effects of the CPH for second and foreign language contexts. The arguments for early instruction can be summarized around the following points:

- (1) Studies in child and adult SLA research indicate that the length of exposure may influence SLA in a favorable way, though the longer the exposure to L2 does not guarantee better outcomes automatically;
- (2) As the general curriculum for learners expands with age, one of the areas of knowledge that could be acquired early is an L2;
- (3) In a globalized world, early L2 learning may contribute to understanding and appreciating different cultures, values, and speakers of other languages;
- (4) The ability to use two or more languages may enhance cognitive development and metalinguistic awareness, and therefore, may influence the L1 favorably through raising awareness and may encourage the further language learning. However, for early FL programs to be useful, certain conditions must be met:
 - (1) Learners need to have positive attitudes towards the L2, its speakers and language learning;
 - (2) The content and methodology of the programs, transfer, and frequency need to be appropriate;
 - (3) Proficient teachers are needed who not only speak both the L1 and L2, but can also apply age-appropriate methodology successfully.

2. Arabic as L1 speakers who are late learners of English are not necessarily able achieve a native-like performance in that language based on the poor results obtained from tests administered to them in their learning setting, but on the other hand and in comparison to the French tests results obtained from the samples, they presented a considerably better performance in the designated tests which were similar to the English ones, which can be a strong indicator of the role that age plays in the general competence of any foreign language.

3. As far as the political decision to consider the CPH on the Algerian education system, we can observe the examples of Europe and Asia where foreign language teaching has been reduced to primary school and in some countries to kindergarten, subsequently if the results of the study indicates that the majority of the students scored better marks in French than in English than one of the reasons might be related to the fact that exposure to a second language plays an important role in the attainment of the language, because the current English learning context provide limited exposure to the learners, thus by reducing the starting age of learning, learners will be exposed to the foreign language longer.

In conclusion, although further research is needed in order to determine the effects of a critical period for second language acquisition, the amount to which learners are exposed to a target language in the instructional domain significantly influences their fulfilment of that language. As such, this thesis adds to the body of research available on second language acquisition by investigating the effects of exposure to the target language as a factor in the development of second language performance and by considering the CPH from an English as a foreign language perspective.

APPENDIX A

Name:

Complete the sentences. Use *a* or *an*.

1. I'm _____ doctor.
2. I'm _____ engineer.
3. I work in _____ bank.
4. I'm _____ student.
- 5 I work For _____ international Company.

Complete the sentences with the correct verb form.

1. What do elephants a. _____? (eat)
2. My baby daughter b. _____ milk. She c. _____ rice. (drink / not eat).
3. On Sundays, Salma d. _____ to English classes, and her sisters e. _____ their parents. (go / visit)
4. Does your brother usually f. _____ his homework? (do)

Complete the sentences.

1. Your father's sister is your _____.
2. Your daughter's husband is your _____.
3. Your son's son is your _____.
4. Your mother's brother is your _____.
5. Your father's brother's son is your _____.
6. Your mother and father are your _____.

Complete the questions. Choose the correct words.

1. What (is/does) 'British' mean?
2. How do you say/mean 'por favor' in English?
3. How/What do you say this word?
4. How do you write/spell 'door'?

Make the sentences negative.

1. We're in room 19. _____.
2. I'm a teacher. _____.
3. He's American. _____.
4. They're here today. _____.
5. This is my phone. _____.
6. I'm married. _____.
7. This seat's free. _____.

Complete the sentences. Use *go* or *have*.

1. I _____ breakfast at 7:30.
2. I _____ to work at 8:15.
3. I _____ a cup of coffee at 10 a.m.
4. I _____ lunch at 12:30.
5. I _____ home at 4 p.m.
6. I _____ a shower in the evening.
7. I _____ dinner with my family.
8. I _____ for a ride with my friends.
9. I _____ to bed at 11:30.

10. I _____ shopping at the weekend.

Number the conversation in the correct order.

- a. _____ How about tomorrow?
- b. _____ Thanks, but I'm going out.
- c. _____ Let's go to the cinema this evening.
- d. _____ Yes, OK.

APPENDIX B

NOM:

Questions:

01) Trouvez le nom féminin qui correspond :

mon père / ma _____

mon oncle / ma _____

mon cousin / ma _____

mon grand-père / ma _____

02) Trouvez le nom masculin qui correspond :

une chatte / un _____

une cane / un _____

une lapine / un _____

une poule / un _____

une louve / un _____

03) Mettez le terme entre parenthèses à la forme qui convient :

Peux-tu me prêter ta (cassette) _____ samedi ?

Les (pneu) _____ de son vélo sont dégonflés.

Il a de nombreux (livre) _____ dans sa bibliothèque.

Combien possèdes-tu de (disque) _____ ?

A marée basse, nous ramasserons des (coquillage) _____.

Regarde ces (hibou) _____ sur l'arbre.

04) Réécrivez ces phrases en mettant tous les éléments adéquats au pluriel :

Le cheval galope. _____

La vipère rampe sous les feuilles sèches. _____

La chenille se transforme en papillon. _____

Elle continue à jouer avec le chat. _____

L'enfant a construit un château de sable. _____

05) Mettez ces phrases affirmatives à la forme négative :

Je vais au marché. _____

Ce matin je fais du vélo. _____

J'aimerais devenir grand. _____

Je souhaite encore vous rencontrer. _____

06) Mettez ces phrases à la voix passive:

Tous les élèves respectent M.Durand. _____

Véronique a partagé le gâteau. _____

Pierre achètera cette voiture. _____

07) Complétez les cases avec les verbes au temps indiqué à la personne demandée:

(avoir) passé composé => Nous _____

(courir) futur simple => Tu _____

(partager) passé simple => Vous _____

(finir) présent de l'indicatif => Elles _____

(espérer) futur antérieur => Il _____

(pouvoir) imparfait => Nous _____

(vouloir) conditionnel présent => Je _____

(partir) impératif présent 2ème personne du pluriel => _____ !

08) Accordez ces participes passés - ATTENTION, l'histoire est racontée par une fille.

Après avoir (boire) _____ mon café,

je suis (aller) _____ dans mon jardin

où j'ai (cueillir) _____ des fleurs

que j'ai (poser) _____ sur la

table du salon que j'avais (nettoyer) _____ avant de sortir.

Appendix C

Maria Livanos Cataui

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Paris. The theft of intellectual property has become as serious for society as the theft of physical property. Not only has it grown in size but also in the range of products and the geographic scope. Almost every successful product- pharmaceutical, toys, spare parts for cars and aircraft, software entertainment products, clothes, cosmetics and accessories- is being copied.

All regions are now both production and consumption areas, and almost no country is unaffected by the problem.

Intellectual property theft has become a sophisticated industry using high technology, the Internet, and the networks and know-how of organized crime. Counterfeiting and piracy are more profitable than narcotics but without the risks; they are becoming the number one crime of the 21st century.

The most affected victims of intellectual property theft are often small local Entrepreneurs who are successful enough to be copied, but who do not have the resources or know-how to defend themselves.

Producers of reputable products are reluctant to manufacture in countries where intellectual property

theft is rife. Such countries lose out on outsourcing and employment opportunities, as well as on foreign direct investment and transfer of know-how and technology.

The impact is not only economic. Intellectual property theft is an illegal activity whose perpetrators do not pay tax, do not respect labor laws and do not care about product quality or safety.

Governments therefore have less money for the country's infrastructure; workers in this underground sector have no legal protection, and consumers are subject to risks to health and safety when products such as toys, medicines, foodstuffs, beverages, airplane parts or car parts are reproduced without the safety features of the originals.

Individual companies and business sectors have tempted to fight the counterfeiting of their products on their own at great expense and with limited results.

Appendix D

Journaux d'hier, journaux d'aujourd'hui

Les journaux veulent plaire. Ils veulent donc publier les articles que le lecteur désire lire. Or, ce lecteur n'est pas naturellement porté vers l'effort intellectuel. Il préfère absorber un aliment qu'il n'aura aucune peine à assimiler, même si cet aliment ne le nourrit pas, même s'il ne lui apporte aucune des « vitamines intellectuelles » ou des « calories culturelles » qui devraient constituer son repas quotidien.

Il n'y a pas tellement d'années, les journalistes avaient pour objectif la défense de certaines idées. Ils voulaient, avant tout, informer et former l'opinion. L'informer loyalement et la former intelligemment. Tandis qu'aujourd'hui, les journaux –beaucoup d'entre eux en tout cas - ont renoncé à précéder l'opinion : ils préfèrent la suivre. Puisqu'elle demande des nourritures sans consistance, eh bien, on lui donnera des nourritures sans consistance!

C'est ainsi qu'est née la presse à sensation.

Afin de plaire à une clientèle portée à la paresse intellectuelle, on a commencé par faire du fait divers une rubrique « noble ».

Et l'on s'est aperçu que ce culte du fait divers donnait d'heureux résultats commerciaux. On est ainsi entré dans un cercle vicieux : le lecteur demande du fait divers, on lui en donne, et on lui en donne de plus en plus. On recherche même le fait divers scandaleux : le « sang à la une » est une formule qui a fait ses preuves et qui n'a pas fini de faire du mal. On recherche le fait divers à scandale, et s'il ne se présente pas, on lui en fournit. On tripote l'événement, on donne un coup de pouce à la réalité, on falsifie la réalité, on met en évidence dans le titre ou dans le premier paragraphe -celui qui doit accrocher le lecteur- un détail absolument sans importance, peut-être même inexact, mais qui aura joué son rôle : celui de parler à l'imagination.

Jean GUYAU, « la pensée et les hommes ».

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Résumé

La précocité dans l'acquisition d'une L2, de l'avis des chercheurs qui travaillent sur les différences liées à l'âge, comporte de nombreux avantages. Le consensus est moins large à propos de l'origine des effets observés en fonction de l'âge. La position majoritaire semble être que les meilleurs résultats des plus jeunes s'expliquent par l'existence d'une période critique dans l'acquisition d'une L2. Cet ouvrage s'attachera tout d'abord à identifier un certain nombre de critères susceptibles d'évaluer l'hypothèse de la période critique. Nous présenterons ensuite quelques études empiriques récentes sur l'acquisition de la prononciation d'une L2, dans lesquelles ces critères seront pris en compte. Ce panorama nous amènera à la conclusion que les résultats combinés de ces études ne s'expliquent pas facilement par l'hypothèse de la période critique. Enfin nous proposerons brièvement d'autres approches pour étudier les différences liées à l'âge dans l'acquisition du système phonique d'une L2.

ملخص

هناك أوجه متعددة لخلفية تعليم اللغات الأجنبية وعلاقتها بالفترة المناسبة للتعلم والتأثيرات المصاحبة لتعلمها. فمنها هذا الفصل سيلقي الضوء على الأطر الفلسفية النظرية التي ترتبط بتعليم اللغات الأجنبية سواء ما يتعلق بالتأثيرات اللغوية أو الثقافية أو من حيث آليات اكتساب اللغة. ومن ناحية نظرية صرفة ، لا يمكن أن ينفك تناول موضوع السن المناسبة لتعلم اللغة عن موضوعين مرتبطين، وهما:

الآلية التي يتم من خلالها الاكتساب اللغوي والفترة الحرجة وهي الفترة التي تتوقف عندها القدرة الفطرية الإنسانية عن التعامل الفطري في الاكتساب اللغوي.