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## **Early Bilingual Exposure and Its Impact on English Acquisition: A Critical Period Perspective in the Pakistani Context**

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### **Abstract**

In this study, the researcher explores the practices of early bilingual education on the development of English language in the critical period among Pakistani children. The study will be based on the Critical Period Hypothesis (CPH) and will assess the impact of exposure to two languages (usually, the native language plus English) on the phonological, lexical and grammatical progression. The study is performed with the help of a mixed-method design, which examines the difference in performance of children studying in bilingual programs and traditional monolingual schooling. The language proficiency tests, observation in the classroom and interview with the teacher show that the early bilingual learners are more accurate in pronunciation, retain more vocabulary and have better receptive and productive language skills. The results indicate that early bilingual education has been found to increase cognitive flexibility and help learners acquire the English language more naturally within a critical time span. The research has implications on curriculum development and states that there is need to have structured policies on bilingual in the early education system in Pakistan.

**Keywords:** Early Bilingual Education, Critical Period Hypothesis, English Language Development, Pakistani Education System, Language Acquisition Strategies

### **Chapter 1: Introduction**

Bilingualism has a number of definitions. In simple terms, bilingualism means speaking two languages with great prowess as well as native speakers. Bilingualism has gained popularity today and most of the individuals speak two languages since birth or at a tender age. The problematic period in acquiring the English language, that is, it is a time frame when the human brain is more responsive to learning an English language normally during childhood. This paper examine the effects of early bilingual education on critical period relating to acquisition of English in Pakistan. According to this paper it is recommended that a child learns English language at a very tender age that would enhance individual critical thinking such as problem solving skills, enhance cognition.

In case child learn English at early age then it does assist child to better pronunciation, expand vocabulary and child may learn basic gram mar structure. The effect of English language proficiency is targeted in this research paper as well. In Pakistan English is widely applied as second language and bilingual education is widely desire. The critical period hypothesis states children are more exposed to learn language since they have more chances as the brain is more awake and they are able to perceive the word and what it means. Exposing children to two languages at an early age may help them to become proficient in both languages and they will also learn the various cultures. English is commonly employed in Pakistan as an instructional language in higher institutions of learning, teaching in the elite institution of learning, and in the case of Pakistan, in private school.

In multi lingual countries(Pakistan) it has been a growing phenomenon that children are exposed to two or more languages at an early age particularly in the cities where simultaneously English and Urdu is learnt. Bilingualism has also ceased to be an exclusive privilege of elite educational institutions; and it is becoming a common phenomenon in the context of the public schools, in particular those of the major cities like, Karachi, Lahore, and Islamabad. On the background of this expanding exposure, it is necessary to evaluate the manner in which early bilingual education fits into the notion of the term by its application to the concept of the critical period, and the influence it exerts on English language growth amongst young scholars. Age of introducing children to English may show their professional command in its use as well as in general mental level. Thus, there are practical implications and implications of what is being learned in terms of curriculum design, teacheering in Pakistan, understanding the importance of the critical period perspective of bilingual education which is relevant to language policy in Pakistan.

Critical Period Hypothesis (CPH) initiated by Eric Lenneberg (1967) postulates that childhood is characterized by the existence of an optimal age, a critical period (in childhood) where language is more readily and easily acquired than at any other time in the life span. Once this state, which is most often thought to stop at the time of puberty, has passed, there is a marked decrease in the efficiency of the brain in learning a language as a native speaker. According to Khattak et al. (2024), the use of the English language in Pakistan is associated with high levels of sophistication and quality perception, particularly within the spheres that are encompassed by the public life. With reference to the English language study, children who are exposed to the language at age under 7 to 10 have better chances of achieving native-type pronunciation, intonation and grammar levels. This is why early bilingual education presents an effective way to increase the level of English proficiency in Pakistan where it is a significant language of instruction in tertiary education and means social advancement.

Moreover, recent cog studies bear out the conclusion that early bilingualism not just increases language capability, but also results in an increase in overall intellect.

Bilingual children prove to have better abilities in controlling attention, improving memories, multitasking, and knowing about cultures. These cognitive advantages are particularly pertinent in a developing nation like Pakistan and education systems are not well equipped and learners have disadvantages like poor English speaking environment outside school. The provision of comprehensive learning in English as a second language in the early years with bilingual teaching techniques can thus leave a sturdy stepping stone towards life long learning.

The purpose of the research is to explore the effect of early bilingual education on English language acquisition in the critical period, and with a particular interest on Pakistani scenario. It will discuss various schooling patterns of the public and the private schools, interrogate language use at home and in the school and assess the ability of students concerning vocabulary, grammar and pronunciation. It will give consideration also as to the part played by teachers and parents in the promotion of the development of bilinguals and how the language exposure is affected by other socio-economic aspects like the urban/rural divide or the level of education that one is educated in.

Moreover, the research attempts to answer the question and see how the provision of English education impacts the access of students to academic and professional opportunities. English as an empowering mode of communication is linked to status, power and connectivity internationally, and it is more than probable that children who learn English at a tender age, mastering a level of fluency in this language, will be more likely to thrive in both the local and global scenes. But this has also ensured a distance between the students coming out of elite English medium educational background and students who are in either rural or poor background and have limited access to quality English education. Thus, the issue of fairness and inclusion within the system of bilingual education is also brought up in the study.

Finally, the study will help in generalizing the relationship between early exposure to bilingual and the English critical period in Pakistan. It will contribute to the determination of the benefits of the early beginning of English learning, the major problems that arise to the various socio-economic groups of the society, and the implication of the policy of the educational system in multilingual societies. Finally it will provide suggestions on how the situation with bilingual instruction can be optimized and how every child despite its roots can be given a chance to become good in English language in their early years.

## **Chapter 2: Literature Review**

### **2.1 Introduction**

This chapter includes an extensive literature review to the fields of early bilingual education, the critical period hypothesis (CPH) and English language acquisition in bi/multilingual context with a special emphasis on Pakistan. The international theories, and local research findings are involved in the review in order to present a

robust basis to the research at hand. It also emphasizes cognitive, linguistic and socio-educational effects of early bilingualism and how the policies and practices of language in Pakistan influence the exposure of children to English in their early years of life.

## **2.2 Defining Bilingualism and Early Bilingual Education**

Bilingualism can be explained as the art to talk in at least two languages in a fluent way. Grosjean (2010) asserts that the notion that bilinguals represent only two monolinguals within an individual is not accurate because bilinguals use two languages that have varied functions, contexts and levels of proficiency. Early bilingual education can be prepared in any language and is generally two language preparation that takes place at early childhood age such as before the age of seven while formal or informal. Research (Genesee, 2008; Baker, 2011) demonstrates that bilingual exposure is very beneficial in making children linguistically sensitive and cognitively flexible, which supports the case that learning languages can best take place at very tender stages of development.

Early bilingualism is an inevitable adjustment to the context of listening to regional languages (e.g. Punjabi, Pashto, Sindhi) and institutional ones such as Urdu and English in multilingual nations such as Pakistan. The upbringing of many children occurs in families in which people speak one language at home and another one is taught at school that leads to different multi-levels of bilingualisms based on exposure level, socioeconomic status, and schooling.

## **2.3 Critical Period Hypothesis (CPH) and Language Acquisition**

It states that there is a biologically defined period during our early years when it is most easy and effective to acquire language which was proposed by Lenneberg (1967) known as the Critical Period Hypothesis. Neurologically, it has been found that, the brain is most plastic in early childhood stage before puberty happens. Johnson and Newport (1989) assert that, those whose second language acquisition started earlier (before age 7) will probably attain a native-like accent and grammar as compared to late starters.

This premise gives deep ramifications to English learning in Pakistan. Exposed to English in critical period, children have more chances to become proficient, and late teaching can cause lifelong problems with the pronunciation and syntax. The study carried out by Singleton and Ryan (2004) proves the claim that early learners acquire more natural patterns of language, whereas late learners are more inclined to conscious rules and translation methods.

## **2.4 Cognitive Benefits of Early Bilingualism**

Studies invariably reveal that there are mental benefits of early bilingual learning. Researchers like Bialystok (2001) reveal that bilingual kids have a better performance in normal procedures that need executive functioning, including the control of attention, problem solving, and working memory, compared with monolinguals. It is believed that this contributes to these cognitive advantages as a result of the

switching back and forth of two languages that results in mental flexibility.

According to the Pakistani experience, research conducted by both Rahman (2004) and Shamim (2008) reveals that English instruction on children during early schooling imparts better reading comprehension skills and critical thinking. Higher education and employment opportunities are also improved through the capability to get academic material and services in English, mainly in urban and semi-urban settings.

### **2.5 Bilingual Education Models: Global and Local Perspectives**

The types of bilingual education world wide are immersion programs, dual- language schools, and transitional bilingual programs. According to Cummins (2000), it is desirable to focus on additive bilingualism that does not depreciate the first language because of the second one. This is in contrast to subtractive bilingualism which may negatively affect the cultural identification and acquisition of first language among the children.

The studies show that English is commonly taught in a subtractive manner in Pakistan especially in the elite private schools where Urdu and the regional languages are downvoted. Nonetheless, current trends towards multilingual education by the National Curriculum Council and education reformers have sought to endorse multilingual education systems that accommodate languages diversity whilst at the same time upholding the value of English mastery (Mahboob, 2009). Even in the case of the public sector schools, teacher training, low resource, and disparity in language policies are some of the optional actions to be tackled.

### **2.6 Early English Education in Pakistan**

English in Pakistan has a complex picture. It is also the official language in terms of judiciary, higher education and civil administration but the vast population lacks fluency. Mansoor (2005) writes that inequality is worsened by the fact that there exists a divide between the English-medium education and the Urdu- or regional-medium education. Students in English schools are introduced to the language early in their lives as early as preschool making them have a huge boost in their mastery of pronunciation, vocabulary and grammatical structure.

The exposure to English at young age and the implication within cities of the urban context of private schools- most of the time coincide with the critical age; however English may be taught relatively late in the countryside and in government schools, sometimes even in the age of 10. Such delay could be detrimental to best language learning especially with regard to non-English speaking children. According to Rahman (2010), the linguistic disparities also are indicators of the classism in the Pakistani societ

### **2.7 Sociolinguistic Context of Pakistan**

The multilingual scenario in Pakistan encompasses more than 70 languages with Urdu being the official language and English playing the role of a social status and power symbol. The prevalence of flitting between English and Urdu or local inventions expresses the flexibility of language of young Pakistanis. As cultural scholars argue

(see Shamim 2008; Mahboob 2017), such stature of English often translates into educational policies that favour English at the expense of mother languages.

This social language structure influences the mindset of children in regards to the languages and their willingness to learn them. The learners in elite schools are also invited to stop speaking their mother tongues and embrace English at the expense of English language introduction to the learners in government schools might come at a late time. This difference brings about great gap in results of the acquisition of English language.

## **2.8 Research Gaps**

However, a lot of international studies have been conducted concerning bilingualism and the critical period, but in Pakistan, localized studies are scarce. A great deal of previous work is concerned with policy ideology arguments or concentrates with the higher education field with little research done in the area on the impact that early bilingual education has on the attainment of English during primary level which is the most critical stage. Also, not a lot of researches are done on how family background, use of regional language, and access to English medium instruction influence outcomes.

In an attempt to address these gaps, this research will focus on exploring the effects of early bilingual exposure to the Pakistani population through exposure to both any common language used in Pakistan and English proficiency levels in both public and private schools. It will investigate the modifying influences of type of schooling, socio-economic status on access to early English instruction by children and whether or not the conditions which influence those modalities represent those conditions postulated by the critical period hypothesis.

## **2.9 Conclusion**

As seen in this literature review, early bilingual education is important and is connected with the critical period in learning English. The notion that exposure to English through bilingualism as early as possible in their life causes improvements in their pronunciation, fluency, and understanding holds with evidence of international and the Pakistani origin. Nonetheless, structural disparity in the education sector in Pakistan hinders the ability of early grounds English education to most of the students. This paper will be useful in terms of how the early bilingualism functions within the Pakistan context and what reforms are required in an attempt to make language knowledge acquisition equitable among everybody.

## **Chapter 3: Research Methodology**

### **3.1 Introduction**

In this chapter, the design of the research, participants, the instruments, and the data collection procedures and methods are outlined. It defines how the research was carried out in order to investigate how early bilingual education can influence the acquisition of the English language within the critical period according to the context of Pakistan. The methodological approach taken also addresses its ethical

considerations as well as the justification of the approach it has adopted.

### 3.2 Research Design

This research project selects a mixed-methods research design in an effort to give a clear view of the English acquisition process using early bilingual education during the critical period. The mixed participation of quantitative and qualitative techniques opens the possibility of statistically analyzing it as well as deeply digging into the views and experiences of the participants.

**Quantitative Analysis:** The measurable measurements were done on the English proficiency of students, exposure age and academic background using surveys and test scores.

**Qualitative Approach:** Teachers, parents and students were conducted to get information on their experience of language acquisition and classroom dynamics as well as social aspects that influence the development of bilinguals.

### 3.3 Research Objectives

**The key tasks of the research are:**

1. The goal of this research was to establish whether early bilingual education affects the English language proficiency of school kids in Pakistan.
2. To determine the correlation between age at which English language is exposed to and their proficiency.
3. To investigate the impacts of bilingualism in the critical period in language pronunciation, word building, and grammar comprehension.
4. To investigate the contributions of school type (public/ private) and social economic background in early language exposure.

### 3.4 Research Questions

- 1) What is the impact of early education bilingualization on the acquisition of the English language, in the critical period within Pakistan?
- 2) In which areas do students growing up with English exposure at an earlier age, and those exposed to English at a later age (than at age 7) differ in terms of English language proficiency?
- 3) What are the implications of public and private system of schooling in terms of bilingual language development?
- 4) What is the attitude of pupil, parent and teachers towards early bilingual education?

### 3.5 Population and Sample

The target population of this research study comprises of the school going children aged between 6-12 years of Pakistan and the selected places viz the urban centers say Islamabad or Lahore and semi-urban/rural settings say Kohat.

**Sample size:** 100 students (50 of private English (\texttrputts setting and 50 of government Urdu (\texttr solely

**Sampling Technique:** Schools that would reflect early English language exposure and

late exposure and were in purposive sampling.

The interview was also conducted among 10 teachers, 10 parents in addition to 50 students to obtain qualitative data regarding the bilingual learning environments.

### **3.6 Instruments of Data Collection**

#### **a. Student Questionnaire**

**A well-organized questionnaire with quantitative data was measured in:**

##### **Exposure age of the English language**

At home and school English use

Self-certified skills in speaking, reading and writing

#### **b. Proficiency in English Language Test**

A brief language proficiency test was given to test on vocabulary, grammar and pronunciation.

#### **c. Interviews Protocols**

Interviews were done semis with:

Teachers (to be able to recognize strategies, focus, and observations in the curriculum)

Parents (to learn the language practices and attitudes of the family)

Students (to recall of their learning mood English and juggling with two languages)

### **3.7 Data Collection Procedure**

1. Before the study was established, the consent of school administrations and parents is taken.
2. Questionnaires were administered first followed by a brief test in which the students were examined on their proficiency in English.
3. Healthcare examinations were performed sitting at ease with two consents recorded through an audio.
4. Data collection was done during a period of four weeks in schools of the Islamabad, Lahore, and Kohat.

### **3.8 Data Analysis**

The SPSS was used to analyze quantitative data obtained in the questionnaires and the results obtained in the test to calculate the mean, the standard deviation and to compare the early and late bilingual learners through t-tests.

Thematic analysis of qualitative data gathered during the interviews was carried out to locate the presence of themes, beliefs, and experiences associated with bilingual learning and learning of English.

### **3.9 Ethical Considerations**

- An ethical standard of research has been embraced in this research:
- All participants and their guardians gave an informed consent.
- There was anonymity and confidentiality.
- The participants were allowed to quit anytime.
- Academic purposes were the only purposes of using data.



### 3.10 Delimitations of the Study

- The research is confined to particular regions of Pakistan and thus the research may not reflect the whole situation of education in the country.
- Students of the age between 6 and 12 years were used.
- The judge also concentrated on comparing English and one local or national language (Urdu/Pashto) in the study.

### 3.11 Conclusion

This chapter has outlined the methodological apparatus of inquiring about the effects of early bilingual education on the English acquisition in the critical period in Pakistan. With the help of the quantitative and qualitative methods, the study balances the discussion of statistical trends and human story preconditioning the data analysis in the following chapter successfully.

## Chapter 4: Data Analysis and Findings

### 4.1 Introduction

In this chapter, both the quantitative and qualitative data are analyzed as it was gathered in the process of the study. The survey collected the data via student questionnaires, language proficiency tests, and semi-structured interviews among the teachers, parents, and students. The objective is to gather information and study the effects of early bilingual instruction on the learning of English language in different parts of Pakistan focusing mainly on the urban regions like Lahore and Islamabad and semi-urban and rural regions like Kohat and do a cross study on how the learning process of English language is affected by early bilingual education in the critical period of learning.

### 4.2 Quantitative Data Analysis

#### 4.2.1 Demographic Profile of Participants

One 100 students were used:

There were 50 students of the English-medium schooling institutions that were privately owned.

50 students were enrolled in public Urdu-medium schools.

Age: between the age of 6 to 12 with a balanced spread throughout this age band.

Geographical distribution: 30 students in Islamabad, 40 in Lahore and 30 in Kohat.

#### 4.2.2 Age of First English Exposure

The analysis revealed:

- **70%** of private school students were exposed to English **before age 5**.
- **82%** of public school students encountered English **after age 7**.

This supports the hypothesis that private school systems introduce English earlier, often during pre-primary or kindergarten levels.

#### 4.2.3 English Language Proficiency Scores

A language test was administered assessing vocabulary, grammar, and pronunciation (total score: 50).

Group	Mean Score	Standard Deviation
Early Bilingual (Private)	42.3	4.5
Late Bilingual (Public)	29.7	5.2

A **t-test** revealed a statistically significant difference ( $p < 0.01$ ) between the two groups, indicating that early bilingual exposure correlates with higher proficiency.

#### 4.3 Data analysis qualitative 4.3

The interviews have demonstrated the following patterns through thematic analysis. The answers were classified into major themes.

##### 4.3.1 Theme 1: Cognitive and Linguistic Development

It was repeatedly noticed by teachers of private schools that early bilingual learners demonstrated greater:

- ☐Critical thinking

- Pronunciation and fluency

- ☐Vocabulary retention

One of the teachers of Kohat observed:

Students who joined our English medium in the kindergarten, not only speak fluently but also acquire third languages such as Arabic or French at an easier rate.

##### 4.3.2

#### Theme 2.: Socioeconomic Factors and Access

The parents of public schools of Kohat and rural regions emphasized the fact that the absence of exposure to English at home and in the society impedes the learning process in children:

At home we talk Pashto or Urdu. At textbooks only English is heard.”

This demonstrates that early bilingualism tends to be associated with socio-economic advantage, particularly, the exposure to English-speaking setting.

#### Theme 3: Cultural Understanding and Confidence

Children who are exposed to early English had more confidence and freedom of culture. Such children excelled better in the following areas as observed by their parents and teachers:

- After group discussions

- Learning cultural references in the English media

- Using English applications and programmes

#### 4.4 Kohat Comparative Findings

Kohat itself is a semi-urban area therefore it represented a combination of both worlds:

The number of students attending private schools in Kohat demonstrated the level of high proficiency of the population, even with limited resources when English came to the fore at early age.

When the same English was introduced later among the students of public schools in Kohat, most of them had difficulties with fluency and pronunciation.

This implies exposure at the early-life stage, irrespective of the geographical location, is a key factor in the success of acquisition.

#### **4.5 Summary of Key Findings**

1. Among young bilingual students more than ever, there were students who learned early (before age 6), whose results were significantly higher in all aspects of English language knowledge.
2. The type and socio-economics of the school have a very strong value in terms of the age and quality of English exposure.
3. Children of Kohat were found to have high learning potential when exposed early and this implies that regional disadvantage can be reversed by early teaching.
4. Early bilinguals have improved cognitive, linguistic and cultural abilities as contrasted with late users learning the new language.
5. Critical period hypothesis is confirmed: those children who learned English earlier had an exhibition of natural acquisition and simplicity of pronunciation and grammar.

### **Chapter 5: Discussion, Conclusion, and Recommendations**

#### **5.1 Discussion**

In this study we examined how early bilingual education taught within critical period in learning English language, would affect the English language learning in students in different regions of Pakistan, and Kohat was one of those regions. These results are consistent with the Critical Period Hypothesis (CPH), which assumes that to develop language, especially to become fluent and correctly pronounce, the early years in the life of a child play a critical role.

The outcomes of the research indicate that the group of children who started to learn English before they were 6 years old with a particular emphasis put on those children that attend English-medium private schools showed markedly better level of knowledge in vocabulary, grammar, and pronunciation. They performed strongly compared to those of late bilingual learners in both rural and urban public schools that were normally introduced to English past the age of 7.

One of the critical themes that emerged out of the qualitative data as conceived could be seen as the relationship between socio-economic status and type of schooling and exposure to language. Privileged children had previously richer and earlier exposure to English, in and out of the classroom. Conversely, children attending government schools especially in semi urban centers such as Kohat did not have enough English exposure as children. It was, however, also discovered that when these children were offered early instruction in English-even in resource-poor conditions-the children experienced extraordinary progress. This proves that exposure timing is more important rather than just setting.

Yet another note in the paper was the cognitive and cultural benefit of early bilingualism. The children who were introduced to other two languages early in their lives possessed more developed skills of critical thinking, more effective memory

recovery, and communication confidence. Such results are supported by the evidence of cognitive benefits of bilingual education in other countries and support its applicability in Pakistan.

## **5.2 Conclusion**

At the end of the study it can be concluded that early bilingual education is quite effective in equipping language during the critical period in order to learn the English language. Children in educational environments who are trained in English at a very early age (especially kids who are in a structured academic environment) utilize language in a better way and depict confidence in communication. The results support the argument that early exposure is not a way of enhancing pronunciation and grammatical knowledge, but it also leads to cognitive development, cultural awareness, and also communication.

Outcomes also point to regional differences between regions as varieties of elite schools located in large cities such as Lahore and Islamabad offer young learners early immersion in English, but regions in the periphery such as Kohat deal with the problems associated with late exposure and poor facilities. However, positivity in the outcome has been noted even in the rural or semi-urban regions, where early intervention in bilingual learning is used, and this supports the stance that early intervention can counteract the effect of social-economic barriers.

The results relate to language education policy, the development of the curriculum, and teacher training programs in Pakistan. National education planning must take advantage of the critical period to ensure that the necessary backgrounds are in place so that children within each region can receive good English language training at the appropriate developmental stage.

## **5.3 Recommendations**

**The recommendations based on the findings of this study are the following ones:**

### **1. Include Early Bilingual Education in National Curriculum**

Bilingual education should be initiated by the policymakers at pre-primary level both in the private and governmental schools. This was to make sure that every child (irrespective of the socio-economic background) enjoys the advantages of early exposure.

### **2. Preliminary Linguistic Instruction of Teachers**

Professional development needs to be all about giving early childhood educators tools to become capable of teaching English in a bilingual environment. Teachers in the areas such as Kohat should be offered help and materials that suit the local situations.

### 3. Create Locally Specific Bilingual Materials

The educational tools ought to be developed on a bilingual basis, in symbiosis with local languages (e.g. Pashto, Urdu) and English to facilitate understanding and build bilingual proficiency at early age.

### 4. Parent Involvement and Consciousness

It would be necessary to launch the campaigns aimed at informing parents about the usefulness of starting bilingual education when children are still young and how they can help the language to be formed at home even in non-English households.

### 5. Subsidy on Rural and Semi-Urban Schools

More funding and other resources should be allocated to schools located in the less developed regions to provide early education in the English language. Regional initiatives within regions such as Kohat can be offered as pilot schemes to be implemented all over the country.

### 6. Further Research

Longitudinal research needs to be done to see the outcome of early bilingual education on academic achievements performance, social transformation and employment in Pakistan.

### 5.4 Final Remarks

The study is part of the increasing amount of literature that supports teaching children multiple languages at early stages of life in multilingual communities. The application of critical period, in the language learning process in Pakistan, may mitigate differences in language (linguistic issues) and improve national educational performance; since English is a very important tool in academic and economic life, in this case. In making sure that all children, be it those in Lahore, Islamabad or Kohat, have an opportunity of quality early bilingual education, Pakistan will be able to create a generation of more linguistically competent, cognitively flexible and globally competent citizens.

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