Migration Letters

Volume: 21, No: S13 (2024), pp. 723-735

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)

www.migrationletters.com

Effects Of Bilingualism On Emotional Intelligence & Cognition Of Pakistani ESL Learners

Dr. Muhammad Asif Gul[1] , Dr. Rukaiza Khan[2] , Sanam Habib[3] , Dr. Nazir Ahmed[4]

ABSTRACT

This study draws a comparison between emotional intelligence & cognitive abilities of bilingual and monolingual English Language Learners in Pakistan. The sample was young learners having monolingual and bilingual/multilingual background. The model highlighted three perspectives of cognition and IQ in bilingual children, i.e. social, psychological and societal. The model deals with the idea that bilingualism is greatly affected by the socio-cultural phenomena and the way society values a language. The emotional intelligence portion[1] of our questionnaire is based on Kids' Empathetic Development Scale. It assesses cognitive and behavioral components of empathy in children. Moreover, the ability model is used for emotional intelligence. This model has four different abilities which are interrelated such as the ability to perceive emotions, reasoning with emotions, understanding and managing emotions. Children's emotional development is also assessed using parental responses to the Strength and Difficulties Questionnaire (SDQ), which screens for children's antisocial behavior, hyperactivity (inattention), emotional symptoms, and peer relationship problems. Inductive approach thematic analysis was done to analyse data (Braun & Clarke, 2021). The results imply that bilingual children have higher IQ and EQ as compared to monolingual English Language Learners.

RATIONALE

Pakistan is a culturally diversified nation and more than 70 languages are spoken here and majority of children are bilingual. With the exception of rural areas and public sector schools, the education system is mostly English Medium. And it mandates exploration of relationship between bilingualism and emotional intelligence & cognition of children.

INTRODUCTION

The 16th edition of The Ethnologue (2009) recorded more than seven thousand languages and 194 bilingual countries around the globe. Pakistan is one of those countries where most people speak and understand more than one language. Pakistan has two official languages: Urdu (7.57%), which is also the national language and serves as the lingua franca in Pakistan, and English. Other than these, there are almost 72 regional languages spoken in different regions

[1]Associate Professor, National University of Pakistan, dr.asif.gul@nup.edu.pk
[2]Assistant Professor, National University of Science & Technology, NUST, Islamabad, Pakistan rukaiza.khan@ceme.nust.edu.pk
[3]Research Scholar, International Islamic University, Islamabad, Pakistan sanam.habib.vt@iiu.edu.pk
[4]Assistant Professor, Government Graduate College of Science, Wahdat Road, Lahore, pakiatan. nazeerahmed244@gmail.com

of Pakistan. So, it can be said that most people in Pakistan are bilingual if not multilingual. Theories against early bilingualism have not established any unitary finding. Nevertheless, it has been proven so far that there is a significant difference between bilinguals and monolinguals in terms of emotional development & cognitive abilities.

First, it is important to look at the fact that there is a relationship between language and the brain. Noam Chomsky considers linguistics a branch of psychology in which language is studied as a manifestation of the mind. According to him, the relation between linguistics and phycology gives birth to psycholinguistics which includes the study of bilingualism, multilingualism, word meanings, and so on (Chomsky, 1968).

In Pakistan, most children are studying in English at their schools and speaking their mother tongue at homes. This can create a gap in their emotional intelligence and how well they respond to language learning.

The study of monolinguals and bilinguals has long been the concern of researchers due to their controversial outcomes and findings. Along with the positive and negative attributes of monolingualism and bilingualism based on cognitive development, there is also discrepancy in term of emotional intelligence in monolingual and bilingual children.

RESEARCH QUESTIONS

- How does bilingualism affect emotional intelligence in the Pakistani children?
- How do monolingual and bilingual Pakistani children differ in emotional intelligence?
- How are bilingualism and cognition related in the Pakistani children?
- How do emotional intelligence inculcating strategies affect language learning in the Pakistani children?

EMOTIONAL INTELLIGENCE AND BILINGUALISM

The significance of emotional intelligence is now inevitable in learning and acquiring language due to multiculturalist and multilinguistic societies. Ponikwia (2013) believes that socio-biographical data, intensity of socialization, personality characteristics and emotional intelligence play a role in learning a second language. Pakistan is host to people of different ethnicities who speak different languages. The different culture brings variances in the concepts of emotional constructions. Kramsch (1990) stated that the social and emotional factors of learners were important in the process of acquiring a new language. Another study indicates that languages carry emotional content which makes it difficult for a new learner to comprehend (Martinez-Miranda & Aldea, 2005). This prospect leads to bring issues in learning a new language not merely because of its complexity but because of external factors such as emotions, insecurities, inexperience (Kramsch, ibid). However, some studies suggest that emotions are natural in human being therefore they react same in all languages.

BILINGUALISM AND COGNITION

The development of cognition is obfuscated without the development of language skills. The role of cognitive abilities is even more challenging in learning a second language for bilingual children. To understand the way bilingual children participate in language learning and how cognitive abilities affect it, a much closer look on the relationship between bilingualism and cognition needs to be taken. Besides the controversies existed in either positive or negative functioning of cognition in learning polyglots by children, there is also discrepancy in the effect of cognitive abilities on the process of acquisition and learning language. As Yang Hong (2008) in his research highlights Stephen Krashen's strategy of acquisition-learning hypothesis in which Stephen Krashen refers to two independent systems of second language performance,

'the acquired system' which refers to subconscious process like that of children when they learn their mother language and 'the learned system' which requires natural communication. The 'teaching' system encompasses formal instructions such as grammar rules since according to Stephen Krashen, learning is of less importance than acquisition.

METHOD OF RESEARCH

Considering the pragmatic world view, we have chosen sequential method for our research because it supported our research problem rather than quantitative or qualitative alone. In this research, pragmatic world view deals with the idea that bilinguals have their own interpretation of the world regarding their linguistic, socio-economic and cultural background. Bilingual children have different cognitive abilities and emotional intelligence as compared to monolingual children because of their linguistic background which will be under investigation in this research work.

The mixed method approach was used in this research to study the responses of children from two groups of schools, government and private. To collect data for research, we developed a questionnaire that is to be filled out by students aged 6-10 years belonging to bilingual background in Pakistan. The test questionnaire targets our focus of research, relationship between emotional intelligence and cognition in language learning & emotional intelligence in bilingual children. The first portion is based on cognition having simple analytical problems. The second and third portions are focused on emotional intelligence. This is our quantitative research portion in which we have analyzed results statistically. In the qualitative portion of our research, we have also conducted short activities based on language skills with our focus groups.

Classroom observation technique was applied to carry out different activities based on research. This research is based on bilingual education program ACMO which deals with pre-primary and secondary education. This model is chosen to study the effect of emotional intelligence in bilingual children and how it could be incorporated in language learning to produce effective results. It is based on four dimensions of emotional intelligence while learning a foreign language. The four dimensions are self-awareness, self-control, self-motivation and empathy which are important factors while learning a second language. These aspects were covered with activity session as well as other experiments such as asking students to discuss their feelings in English (L2) in front of the class etc.

The emotional intelligence portion of our research questionnaire is also based on Kids' Empathetic Development Scale (KEDS) which was designed to assess cognitive and behavioral components of empathy in children. This model is used as the foundation for studying the different emotional responses between monolingual and bilingual children. A feature of this scale refers to removing the facial features of targets in each picture scenario and judging the perception of children regarding the emotions of the target. It would be incorporated in our exercises to judge emotional intelligence in children from both schools (Reid, Davis, Horlin, Anderson, Baughman & Campbell, 2012).

Another part of data collection is based on observations; this would be carried out during data collection process in which we showed two to three cartoon videos having high emotional content to children to judge their response regarding sensitive matter and their perceptive ability towards it. It allowed us to examine their emotional intelligence and cognitive ability by asking them to explain what happened in the videos. It helped us discern how quickly they understood what was happening in the videos and how much they remembered it (regarding cognitive ability). The videos predicted sentimental elements to judge the emotional response of children.

To develop the relationship between emotional intelligence and cognition, we followed the model in which three perspectives of cognition in bilingual children are highlighted. These three perspectives are social, psychological and societal which all deal with the idea that bilingualism is greatly affected by the socio-culture phenomena and how society values a language (Hakuta, Ferdman & Diaz, n.d.). This model is based on studies of different researchers on bilingualism such as the idea that different types of social environment in which children acquire language lead to different types of cognitive bilingualism (Cummins, 1996). This model forms the basis for the experiments focusing on studying cognitive abilities in bilingual children. These experiments would have elements such as telling stories to children and asking them to narrate them back, testing their IQ and cognitive abilities in form of simple mathematical questions in the questionnaire etc. The questionnaire of this study comprises both cognitive and emotional intelligence portions. It was administrated to children from private and government schools. It helped in investigating how emotional and sensitive bilingual children are as compared to monolingual children. The facial expressions exercise was also employed to check how perceptive and observant bilingual children are of others' emotions. The last part of the research investigated whether bilingual children are more thoughtful and emotionally intelligent than monolingual children.

QUESTIONNAIRE

I am a Boy / Girl.

I am _____ years old.

I can speak _____ languages.

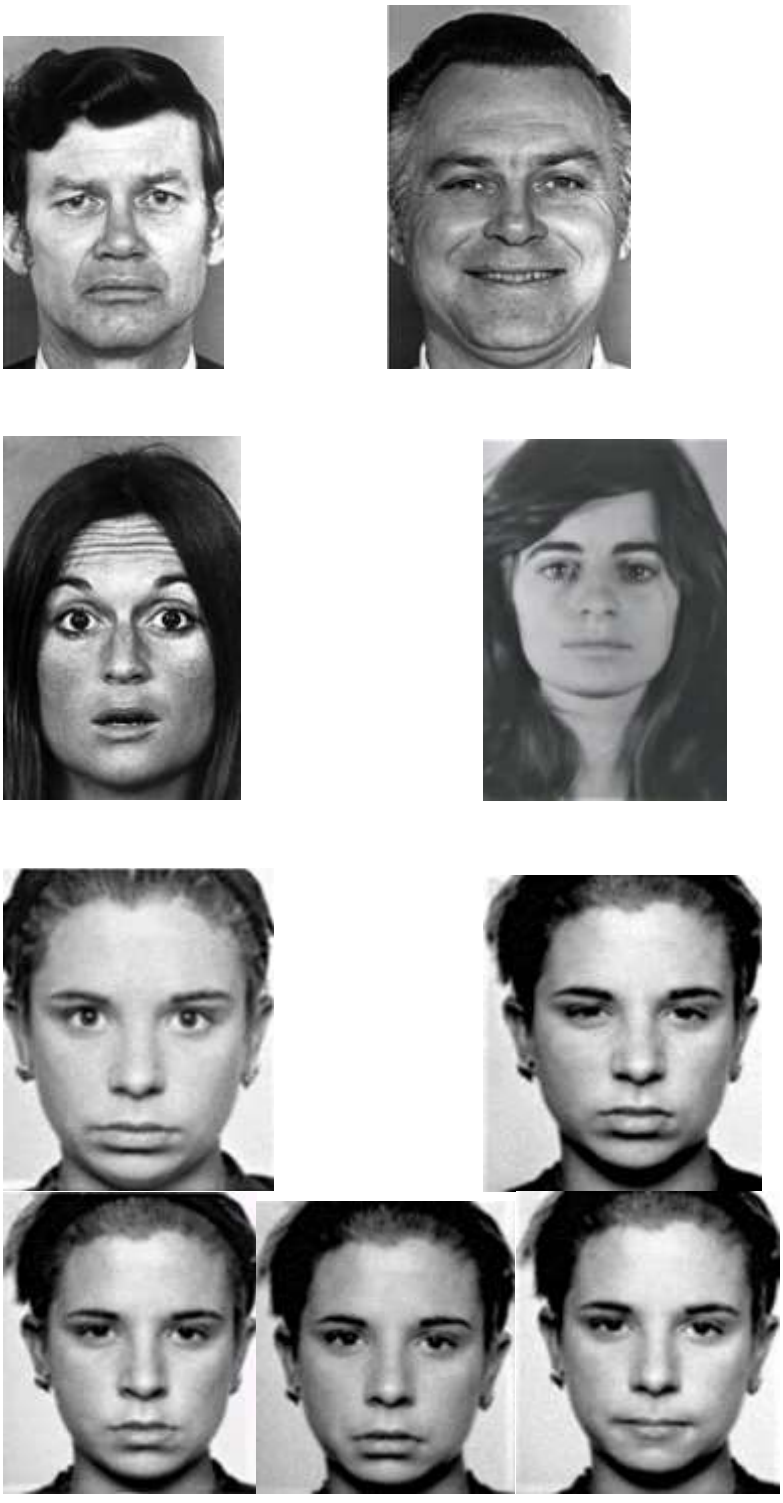
Solve the given word problems

i. Ali has tomato plants in his backyard. This year the plants grew 127 tomatoes. Birds had eaten 19 of the tomatoes. 23 tomatoes had been ruined by bugs. He picked the rest. How many tomatoes did Ali pick?

ii. A school has 124 first graders and 130 second graders. On Friday, 12 first graders and 9 second graders were absent. How many first and second graders were in school on Friday?

iii. Obaid and Fara make cookies for the school bake sale. Obaid baked 72 cookies. Fara baked twice as many as Obaid. How many cookies did they bake altogether

iv. How is the person in the picture feeling?



v. Observe the picture below and answer the given questions.

a. How does Sarah feel?

_____

b. Why does Sarah feel this way?

_____

c. What would you do if you were Sarah?

_____

d. How does Ahmed feel?

_____

e. Why does Ahmed feel this way?

_____

f. What would you do if you were Ahmed?

_____

DATA ANALYSIS

Inductive approach thematic analysis was done to analyse data. It is a six-step procedure of qualitative data mining introduced by Virginia Braun and Victoria Clarke (Braun & Clarke, 2021). Researchers familiarized themselves with the data in the first step, the second step

comprised coding and themes were generated in the third step. Themes were reviewed in the next step. The fifth step entailed defining and naming themes and the last step was writing up. The analysis of the data revealed that bilingual children have higher IQ and EQ as compared to monolingual English Language Learners.

In a similar study on people from different countries such as Argentina, US, Brazil, Japan and Chile it appeared that they all process emotion in the same way despite having different cultures. It was thought that this was due to Western media exposure there were similarities in emotion processing (Ekman, 2003). The American and non-American students were able to show more awareness of emotions and facial expressions. (Ekman & Friesen,1971). Nevertheless, in other studies it is also seen that there is a difference between emotion processing depending on the cultural background. Asian cultures motivate individuals to remain calm in stressful situations whereas Westerners are often encouraged to show their emotions (Zhu, Zhang, Fan & Han, 2007). In a neurological research on Chinese participants it was concluded that they activate the same brain areas when talking about family members or themselves whereas the same pattern was not seen in Westerners. Westerners focused more on self-independence whereas Chinese people were more family or relationship-oriented (Murata, Moser & Kitayama, 2013).

The other important trait of emotional skills revealed by data is empathy which plays significant role in the learning of foreign language in a classroom. According to Goleman(1998), it is important to have empathy which means to have the ability to recognize and understand one's feelings as others. This also includes being able to recognize and award others' strengths. This is based on three fundamental skills, maintaining a good relationship with others, appreciating the unique characteristics of others and not missing any opportunities in doing so. The process of recognition and understanding of other feelings would not only develop emotional intelligence but also help in learning second language to a great extent. As a study Han (2010) suggested that bilingual children in their early schools' years have better socio-emotional skills. This study is based on longitudinal study on Latino children from kindergarten to fifth grade. He observed that fluent bilinguals, up to fifth grade were better able to communicate with their teacher, peers and parents so they picked up sharper socio-emotional skills than the monolinguals of same age group. This study indicates that fluent bilingualism improves children's socio-economical being by making them feel more comfortable and accepted in their schools.

As in one of the findings recorded for English videos shown to Arabic-English bilinguals and Arabic monolinguals shows that bilinguals scored significantly better than monolinguals because they knew the language and were better able to understand how the emotions were expressed. It was surprising to see that Arabic-English bilinguals performed better in the English videos than English monolinguals (Alqarni, Dewaele & Jean-Marc, 2018). Moreover, the link between multilingualism/multiculturalism, acculturation and the personality profile of London teenagers were researched, and the multilingual group scored higher in cultural empathy and open mindedness but less in emotional stability whereas monolinguals were seen to have more emotional stability and lower cultural empathy (Dewaele & Oudenhoven, 2009). Nevertheless, researchers from University of Tennessee at Knoxville and Ruhr University in Germany compared executive functions of monolingual and bilingual children and observed that although, bilingual children are social, bilingualism does not affect their intellect in any way. This aspect is still under discussion and controversial among researchers that either monolinguals have better cognition and emotional intelligence or bilingual are the production of higher intellect and controlled emotional skills .Another research on the level of emotional competence of the students of a primary school was studied and results showed improvements in the variables of Sociability and Disturbing Behaviours within the experimental group.(Díaz-Villabella & Gilar-Corbí, 2019). Moreover, the results

recorded for English videos shown to Arabic-English bilinguals and Arabic monolinguals in which bilinguals scored significantly better than monolinguals because they knew theses language and were better able to understand how the emotions were expressed. It was surprising to see that Arabic-English bilinguals performed better in the English videos than English monolinguals. (Alqarni & Dewaele, 2018). (Barrett, 2017) suggested that individuals with high levels of emotional intelligence have learned more emotion words and constructed new emotional experiences and predictions. However, these findings become arguable when the bilinguals were taken from the foreign background and belonged to immigrant families. The other group of scientists explain that as the foundations of children's behavioral self-regulation is their language abilities, young children in immigrant families tend to face more challenges and can often call upon fewer resources than their native-born peers which negatively affects their social–emotional development. In a study on 576 immigrant and native-born German children, aged 3–6 years, development of emotion knowledge was studied. Language abilities and behavioral self-regulation were examined as factors of the link between immigration background and emotion knowledge. The immigrant children showed less emotion knowledge as compared to native-born German children. This was because immigrant children had fewer resources, so they tend to show less emotion knowledge (Voltmer & Salisch, 2018). Another study suggests that family members' levels of language proficiency also affect the language acquisition of immigrant children. It is based on parent-child relationship as well as husband-wife relationship and how their language proficiency influences children (Chiswick, Lee, & Miller, 2005).

Moreover the dispute in scientific research that bilingualism has either pros or cons in fostering the cognitive functioning of child still goes on. As one of the researches indicates that due to the intervention from other languages, the process of second language acquisition is considered more obtrusive than acquiring first-language (Birdsong, 2006, 2009; MacWhinney, 2007; Rast, 2010). However, the other view of investigation suggests that the control of cross linguistic intervention is better in bilingual than monolinguals. It is further suggested that bilinguals outperform monolinguals in learning novel language vocabulary (Cenoz, 2003; Cenoz & Valencia, 1994; Kaushanskaya & Marian, 2009a, 2009b; Keshavarz & Astaneh, 2004; Sanz, 2000; Thomas, 1992; van Hell & Mahn, 1997), grammar (Klein, 1995; Sanz, 2000; Thomas, 1992), and pragmatic rules (Safont Jorda, 2003). Another study shows the differences in language transfer (MacWhinney, 2007; Murphy, 2003), metalinguistic awareness (Jessner, 1999, 2008), and phonological working memory (Papagno & Vallar, 1995) are thought to contribute to the bilingual language-learning advantage.

Until the last century, researchers engaged in exploring the relationship between bilingualism and intelligence concluded that bilingualism has no positive effects on cognitive development, however, there comes another side of coin in which positive influences of bilingualism are also drawn out. Bilingual children largely utilize their cognitive abilities in learning in second language. As Diaz (1985) believed that, although, bilingualism affects cognitive ability, monolingual and bilingual children cannot have the same metalinguistic ability which is enhanced in bilingual children and helps them learn how to read quickly. On contrary to this view another study was conducted on school children in Montreal with the intent to discover how bilingualism negatively affected children's cognitive development and to devise appropriate plans to deal with this situation. French-speaking children from Montreal were the focus and subjects were chosen on basis of many factors (gender, age, cultural background etc) that could produce difference in results. A key focus of this research was the bilingual children who were equally competent in the two languages they were familiar with. It was expected that according to previous research, bilingual children would be inferior in verbal and perhaps non-verbal intelligence as well. Contrary to what they believed, they seemed to discover that bilinguals performed much better at the tasks of verbal intelligence than monolingual children

(Peal, & Lambert, 1962). Therefore they were of opinion that this advantage might be due to mental flexibility as a result of bilingualism. Moreover, bilingualism gives these children a wider set of mental abilities and strength in concept formation. As a result of this experiment it was shown that bilingualisms have superior intellect and monolinguals seemed to have more of a unitary intellect which they used in all tasks (Guilford,1956). Likewise, in another project called 'St. Lambert Project' on bilingual children, it was shown that the bilingual children are more capable of producing imaginative results as compared to monolingual children hinting at their superior intellect. Bilingual children are also more efficient in transferring skills from one language to another as compared to monolinguals. It led to the scientists' speculation that this was the result of their higher cognitive process (Lambert & Tucker, 1972).

The relationship between bilingualism and cognition is also obtrusive due to unequal command of language between monolinguals and bilinguals. As Bialystok (2010) states that it is hard to judge bilingualism in terms of cognitive development because the study is not straightforward and requires some sort of criteria but defining that criterion is the difficult part. For example, if you take two groups of children, one who are strict monolinguals and the other with limited capacity of second language, then bilingualism does not seem to affect their intellect in a major way. Another reason could be that all bilingual children are different from each other so equivalency of groups is not possible. Some bilingual children may have more command over their second language than others. In her research she concluded that speaking two or more languages has a positive effect on the brain and helps in cognitive development. Because bilingual children are better at switching between different languages, hence resolving conflict in their minds, it helps them more with concept formation and they can pay more attention to tasks of conflicting nature. Similarly, another study conducted in Puerto Rican elementary school students. Bilingual students have shown more metalinguistic ability and nonverbal intelligence in their native language. It was believed that bilingualism can help enrich education and thus bilingual children have higher cognitive abilities (Hakuta, 1990). Additionally, Cummins' (1996) hypothesis suggests that an individual need to reach an age-appropriate proficiency in their two languages before bilingualism can play a part in their cognitive development. In contrast to these studies, Ciardelli (1992) demonstrates that individuals who speak half developed second language and have a fully developed first language do not have any cognitive benefits of bilingualism as well as no cognitive deficits. Dillion (2009), however, states that bilingualism has been found to be associated with a wide range of metacognitive rather than cognitive advantages, for example metalinguistic awareness, which is the ability to focus on and direct attention to aspects of language, to reflect upon language and to evaluate it. Moreover, bilinguals have higher intellect as compared to monolinguals which enable them for better problem solving in different situations since they deal with multiple perspectives on issues and have better critical thinking capabilities. Artificial intelligence is used to affect cognitive processes aiding in language learning. Emotionaly intelligent people are composed and less aggressive as well (Javaid et al., 2024). Learning atmosphere, attitudes, use of media and collaborative strategies by teachers are key determinants for language learning (Ramzan et al., 2023).Mindful teachera helplearn effectively (Javaid et al., 2023). Mohanty (1992) also observed that bilinguals have superiority in cognitive abilities and academic performances meaning higher intelligence as compared to monolinguals. To a further extent, Viorica Marian and Anthony Shook (2012) explicated that bilingualism has exceptionally good effects when it comes to practical benefits. It leads to betterment in cognitive and sensory processing that may help an individual in learning by providing a better insight and clearer signal. In a recent study, it was researched that bilingualism does affect positively both cognitive and linguistic processing (Kroll & Bialystok, 2013). Another study on eight and nine-year-old Spanish-English bilingual children of low socioeconomic status was done to find out if cognitive enhancement from bilingualism is sensitive to the child's degree of bilingualism. The results

showed that children with balanced language skills, instead of only bilinguals, performed better on non-verbal tasks of cognitive function (Thomas-Sunesson, Hakuta & Bialystok, 2018). Moreover, in the research, across 4 different nonverbal tasks, 12 distinct executive functions were measured and it was found that early bilingualism or even fluent and balanced bilingualism, or trilingualism do not raise inhibitory control (Paap, Johnson & Sawi, 2014). Another research also suggests that the need to manage several language systems in the bilingual mind has an impact on children's language skills but does not have much effect on working memory. (Abreu, 2011). Language communication helps convey emotions (Javaid et al., 2023) and stressed if challenged (Javaid et al., 2024). Bilingual minds has difficulty processing vocabulary (Ikramullah et al., 2023). Ramzan et al. (2023) further states that emotionally intelligent leaders convey in a better way. Expressive writing impacts (Javaid & Mahmood, 2023).

Code mixing (CM) and code switching (CS) are other motivated factors of bilingualism's effect on cognitive ability, with the consideration of "optimization," as it leads to the imperative tool for dealing innovative and novel requirements of bilinguals (Bhatia, 2011). A creative approach gives "further insights into a discourse-functional motivation of code mixing (Myslin & Levy, 2015). The complexity and creativity under CM and CS generally create hindrances in bilingual communication. Moreover, the social judgement of a mixing language is generally considered negative. Bilinguals are often mocked for their "bad" and "irregular" linguistic behaviour". Moreover, "the guardians of language often accused them of destroying the linguistic heritage". Due to these reasons, bilinguals themselves get regret and contrite about their verbal behaviour. Regardless of that, they cannot combat language mixing. On the other hand, Rodriguez et al (2012) found in his research that bilingual speakers are more adaptive.

While considering the innateness (like, nature, neurological and biolinguistics basis of language acquisition), the importance of social factors cannot be denied in developing the language of bilinguals. Vygotsky analyzes that socio-cultural phenomena affect the thinking and cognitive development of a child. Another study emphasized that development cannot be separated from social and cultural context (Verenikina, 2003). According to this, language plays an important role in cognitive development as it is affected by socio-cultural phenomena. Language is an integral part of culture, so socio-cultural phenomena in this case can refer to the languages spoken in a culture. A multilingual culture can affect children's cognitive development and shows intricate attributes which serves to mark multiple identities (e.g., ethnic, social, national, regional etc.) hardly observed in a monolingual person (Edwards, 2004, 2006; Wei, 2013).

The role of parental interaction is undeniable not only in language learning but also in developing emotions. By following the suggestions of educators, bilingual families mostly follow a "One-Parent/One-Language" strategy, such as use of different languages based on specific time and space; like, practicing one language in the day time and other language in the evening time or one language is spoken by father and other language by mother. This is done to retain minority or ethnic language. Apart from the fringe of language perseverance, such strategies bring problems in developing the mind of the bicultural and bilingual children for various reasons, including providing of communicative and pragmatic competence and giving positive and negative clues to children who live through cultural language development with real sociolinguistics phenomenon based on verbal interactional forms (Bhatia & Ritchie, 1995) . In the light of above view, however, De (2007) rightly tells that it is imperative for children to take minority language input from parents. The research was also done on early education on American contexts and factors such as socioeconomic status that related to outcomes of

bilingual education. It was concluded that there were no harmful effects of bilingual education rather there were benefits of it (Bialystok, 2018).

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