

The impact of bilingualism on Language and Literacy Development

Madiha Ishtiaq Atif Rehman

madiha.atif2012@outlook.com
Al Najada, Doha, 3280, Qatar

Abstract

Impact of bilingualism on language and literacy development was investigated in the present study. The goals of this study were to determine the effect of bilingualism on language and literacy development, as well as to compare the features of bilingual and monolingual language development and literacy growth. The study was conducted in a cross-sectional manner. The information was gathered from the Department of Speech and Language Pathology; Mind Institute – Special Needs Centre, Qatar. A total of 25 patients were analyzed using a battery of tests which included the Clinical Evaluation of Language Fundamentals (CELF-5), Renfrew Language Scale (Action Picture Test), Visualizing and Verbalizing, and Questionnaire. Each patient was assessed individually by a speech and language pathologist who is skilled in assessing learners with Learning Difficulties. The 25 participants were divided into five groups, each with a different age range. Language Development features such as Metalinguistic Concepts, Word Awareness, Syntactic Awareness, and Phonological Awareness, as well as Literacy Development characteristics including Reading and Writing abilities, were age/grade appropriate for monolingual learners in each group. Bilinguals, instead, showed certain delays in only single language, English. Bilinguals, on the other side, have a larger vocabulary in two or more languages. It is vital to remember that bilingual learners require their own time to attain grade level. The study, it is concluded, will benefit in the efficient treatment of patients. Timely or early intervention can help learners achieve age or grade-level language development and literacy growth while avoiding academic failure.

Keywords: Bilingualism; Literacy; Language; development; growth; vocabulary.

1. Main text

Introduction

Bilingualism is intricate, and it is impacted by a variety of factors, including the age at which the second language is learnt, continuing exposure to the first language (L1), relative proficiency in each language, and the conditions in which each language is taught. Language knowledge is seen as a binary category in popular concepts of bilingualism—whether one has acquired two languages or not. (Brutt-Griffler, & Varghese, 2004).

The frequency of bilingualism in the general population, the number of children who are raised with two languages, and the ratio of students who enroll into the school without communicating the instructional language, the developmental concerns of this experience have been remarkably ignored. Researchers in language acquirement, education, and cognitive development have basically developed their models from the simple hypothesis that children have one mind, one conceptual system, and one language. The restrictions of this hypothesis are quickly obvious when one considers the expected and prolific communications between language and thought in virtually every cognitive attempt, specifically during development.

Children become bilingual or multilingual for a variety of reasons, including immigration to a new nation,

extended family members who speak a traditional language, schooling in a language other than the home language, and temporary residency in another country. These circumstances are often confounded with social and demographic factors that may themselves determine children's level of cognitive achievement. These characteristics include the parents' educational level, the literacy environment in which the child grows up, the nature and extent of the child's competency in the first (or native) language, the methods for which the second language is used, the extent and purpose of community support for that language, and the degree to which the child recognizes with the group that speaks that language. One of these factors, language proficiency, is particularly in need of definition: What level of absolute proficiency in each language or relative proficiency between the languages is sufficient to either determine that a child is bilingual or that there may be cognitive consequences of that bilingualism?

Bilingualism may alter the manner or rate at which children develop metalinguistic concepts of language and the background skills and early abilities required for reading. One crucial determinant of early literacy is simply vocabulary size, and on this dimension, bilingual children typically control a smaller vocabulary in each language than do monolingual speakers of that language. In a study measuring receptive vocabulary in over 1,700 children between the ages of 3 and 10 years old, bilingual children obtained lower scores in each language than monolinguals did at every age tested (Bialystok and others, 2010). Thus, any advantages in metalinguistic concepts would be independent of simple knowledge of vocabulary. To anticipate the conclusion regarding metalinguistic development, there is no simple equation and no quick remedy. These are complex skills and children's linguistic experiences influence their development greatly. In some cases, bilingualism on its own is also a crucial factor, in other cases, the specific language that children speak or read determines proficiency, and in others, there is no difference and all children gradually learn these skills in the same way and on the same time course.

Language

Chomsky defines language as "a collection (finite or infinite) of sentences, each finite in length and composed of a finite set of components" (Chomsky, 1957). As he continues, this is accurate for all natural languages since they contain a limited number of syllables (or letters in their alphabet) and each sentence can be represented by a finite limited sequence of these phonemes (or letters) (Chomsky, 1957).

Metalinguistic Concepts

Metalinguistic, or meta-awareness, ability refers to a person's capacity to reflect on and deliberately consider spoken and written language and its usage.

It is particularly common that a child's capacity to think about and manipulate language forms dictates how effectively they acquire a new language idea. The domain of metalinguistic awareness was one of the first areas of research to demonstrate persistent benefits for bilingual children over their monolingual counterparts. It seems possible that examining two distinct language systems increases the awareness of structural patterns and draws the child's attention to language's systematic aspects. Some important Metalinguistic Concepts are as follows:

Word awareness

Understanding the meaning of a letter or a set of letters whether spoken or written.

Bilingual children consistently outperform their peers in terms of understanding the nature of the relationship between words and their meanings. Leopold (1961) identified the ability to perceive and appreciate this arbitrary base of meaning in language as a clear benefit of bilingualism in his notable diary study of his daughter. He claimed that bilingual children are able to distinguish between words and their meanings before monolingual children do.

For children to properly understand the abstract level of language structure represented by words, they must have two linked insights. The first is that speech may be broken down into manageable parts. To demonstrate understanding of the defined limits, children are usually asked to count the number of words in a phrase or define what a word is in tasks that evaluate this component of word awareness. The second is understanding how words work to convey meaning. This feature, also known as lexical or referential arbitrariness, demonstrates how well children comprehend the traditional meaning of words and their intended meanings. Understanding the role of words (referential arbitrariness) is dependent on the capacity to recognize words as

relevant parts of speech (segmentation).

Syntactic awareness

Syntactic awareness, also known as grammatical awareness, is the ability to reflect on the rules of grammar and to manipulate the grammatical structure of sentences in a language (Gombert & Gombert, 1992).

The need to make a judgment about the grammatical acceptability of a sentence is probably the prototypical metalinguistic task. Although difficult, these tasks have been used successfully with children, and manipulating the instructions or the materials used enables one to isolate specific metalinguistic processes. In addition, comparing performance on standard grammaticality judgment tasks to other metalinguistic tasks leads to a more finely differentiated description of metalinguistic skill.

Phonological awareness

Phonological awareness refers to a total awareness of the sound structures of speech and the capability to manipulate those structures. Phonological awareness is an umbrella term that includes both basic levels of awareness of speech sounds, such as rhyming, sound patterns, the number of words in a sentence, and the syllables within words.

Phonological awareness may be the most significant element among all other components of metalinguistic awareness because of its reliable - predictive relation with learning to read in an alphabetic character. Some researches have shown that for (monolingual) children who speak different languages Caravolas & Bruck (1993), phonological comprehension grows differently, but those studies do not suggest whether children who speak both languages learn these concepts differently from monolinguals. Other tests have shown that phonological comprehension thresholds predict bilingual children's levels of reading in each language (Carlisle and others, 1999; Durgunog˘lu, 1998; Durgunog˘lu, Nagy, & Hancin-Bhatt, 1993; Liow & Poon, 1998).

Literacy

Literacy is “the ability to use printed and written materials associated with different contexts to identify, comprehend, interpret, create, communicate and compute”.

Literacy requires a process of learning to allow people to accomplish their goals, grow their skills and potential, and actively engage in their culture and society as a whole. (Henriques & Brilha, 2017).

In improving early literacy skills in young children, the effect of bilingualism on development can have some of its greatest effects. Reading builds on a number of prerequisite talents, some of which include the above-described metalinguistic principles. In addition, there are also principles that need to be in place that are more applicable to reading before children can become independent learners.

This involve learning the structure of stories in the conversation and mastering the symbolic framework used to encode the language. For bilingual learners, one (or both) of these can grow differently and change the way they learn to read. Furthermore, for bilingual children, the profile of abilities involved in early reading can vary.

Learning about stories

The last step in a long period in which learners are absorbed in the culture of stories is learning how to read. Written language is a specific type that does not clearly benefit from oral speech competency. Learners require to be familiar with the discourse conventions that add continuity and connection to the text in order to acquire stories.

Competence of these literate modes of language emerges from storybook experience (Purcell-Gates, 1988), and the level of mastery of these forms by children has been described as the basis of the positive association between the exposure of preschool children to storybooks and good outcomes of literacy (Dickinson and others, 1992; Snow & Tabors, 1993; Wells & Gordon, 1985). Therefore, it would also be necessary to establish how bilingualism affects the access of children to these literate types and their mastery.

Learning about print

They must gain the principles that allow them to understand the symbolic printing mechanism and how it conveys messages until children can read independently.

Reading

In order to analyze children learning to read in a second language, an active research group is involved. These findings include studies of minority-speaking children who do not speak school language at home (e.g. Hispanic children in the United States) and majority-speaking children who attend a non-home (majority) language school program (e.g., French immersion in Canada). Children in both cases are learning to read in a language in which they have minimal oral proficiency, but the educational results are dramatically different. Both cases contribute to our understanding of the developmental mechanisms of learning to read, the instructional consequences of different school arrangements, and the social implications of language status. However, none of these studies specifically discuss the role of bilingualism in children's early literacy acquisition.

Writing

Writing is a series of graphic symbols that can be used to express information.

Writing is not the same as language. Language is a dynamic structure in our brain that helps us to construct and understand words. Having an utterance noticeable is what writing means.

Objectives

- To determine the impact of bilingualism (i.e.: English and Arabic) on Language and Literacy Development.
- To compare the characteristics of language development and literacy growth of Bilingual learners with the Monolinguals.

Hypothesis

Null Hypothesis:

There is an impact of bilingualism on language and literacy development.

Alternate Hypothesis:

There is no any impact of bilingualism on language and literacy development.

Problem Statement

In Qatar, being a multinational country, more than one language is spoken. The two problems are seeming to be recurring issues. First, there are many misconceptions regarding bilingualism or multilingualism i.e.: the child will be developmentally delayed due to having exposure to more than one languages, the child should have more exposure to the language used in his school because of his future or career, use of home language is not important or beneficial for the child etc. Second, there is no previous study in Qatar to clear the misconception or provide awareness.

Therefore, this study is intended to improve the perception of bilingualism in Qatar and its effect on language and literacy development.

Methods

The data for this study was collected from the Department of Speech and Language Pathology; Mind Institute –Special Needs Center, Qatar. The study design was cross- sectional. The research lasted nine months following the acceptance of the synopsis. A sample of 25 learners was drawn without regard for gender. Children/Adolescents with learning disabilities were included in the study, as were learners aged 5-15 years without regard for gender. Individuals who did not meet the aforementioned condition were excluded.

Data Collection Procedure

Language Development and literacy growth of bilingual children/adolescents between 5-15 years of age will be examined in a group of 25 children facing learning difficulties. It was reasoned that this would be an ideal opportunity to reach a reasonable number of children with the assessment procedure. Upon informed

consent, parents were asked to cooperate in the assessment process. Parents were informed about the assessment procedure and questions. They were briefed about the purpose and nature of the study. They were also reassured about the confidentiality of the information. Participants will be evaluated using the questionnaire and an assessment battery developed by the researcher administered individually by a speech and language pathologist skilled in assessing children with learning difficulties.

Assessment Tools

All these cases will be administered through the questionnaire and an assessment battery. The assessment battery contains: Clinical Evaluation of Language Fundamentals (CELF-5), Renfrew Language Scale (Action Picture Test), Visualizing and Verbalizing and Questionnaire developed by the researcher.

Clinical Evaluation of Language Fundamentals (CELF-5):

The CELF-5 is a 16-test battery that provides a concise, comprehensive, and interactive method to language assessment. It is capable of comparing and contrasting written and oral language abilities. CELF assesses reading comprehension, structured writing, and interpersonal communication abilities. It will display the standard ratings, percentile rankings, and growth scale values for the Pragmatics Profile.

Renfrew Language Scale (Action Picture Test):

The Renfrew Action Picture Test is a standardized tool for evaluating children's language and grammar development between the ages of 3 to 8.5 years. This contains informative phrases, tenses, irregular forms, as well as basic and complex sentence structure. A recently developed standardized evaluation has been developed in a concise and clear manner. It is quick and simple. It is an excellent technique to determine whether a child's vocabulary lags behind his or her mental process. Parents benefit from observation.

Visualizing and Verbalizing:

In the Visualizing and Verbalizing (V/V), concept imagery—the capacity to construct an imaginary or imaged gestalt from language—is developed as a foundation for understanding and higher order thinking. Reading and listening comprehension, memory, oral language, critical thinking, and writing all benefit from the development of concept imagery.

The Visualizing and Verbalizing manual explains how to construct concept imagery, or the ability to generate representations from words, as well as the concept behind it. It describes how to use essential questioning approaches to help students visualize language and verbalize their ideas. Oral and written language understanding, as well as analytical thought, require this imagery-language relation.

Results

This observational study was based on 9 months' time period and 25 learners were studied. All these cases were administered through the questionnaire (see appendix), which was filled out based on informant basically mother's information and client's history and an assessment battery. The assessment battery contains Clinical Evaluation of Language Fundamentals (CELF-5), Renfrew Language Scale (Action Picture Test) and Visualizing and Verbalizing. For this research, children/adolescents who were facing learning difficulties and ranges from 5-15 years of age without any gender discrimination were interviewed as well as assessed.

Of the 25 learners, 11 are females and 14 are males. All of them are divided into five different groups with five different age ranges i.e.: 5 to 7 years old, 7 to 9 years old, 9 to 11 years old, 11 to 13 years old and 13 to 15 years old. Qualitative variables of different factors or characteristics were analyzed by using frequencies and percentages. From this data, the impact of bilingualism on Language and Literacy Development and the comparison of the characteristics of language development and literacy growth of Bilingual learners with the Monolinguals was administered. Results indicated that the Monolingual learners in each group have age/grade appropriate characteristics of Language Development which are Metalinguistic Concepts, Word Awareness, Syntactic Awareness and Phonological Awareness and those of Literacy growth i.e.: Reading and

Writing skills. On the other hand, Bilinguals showed some delays in specific language which is English. But overall their vocabulary in two or more languages is more than the monolinguals. Additionally, the graph demonstrates that bilingual learners experienced difficulties with phonological awareness, which resulted in delays in all other characteristics, as they are all interrelated. The hierarchy will begin with the phoneme and progress through the morpheme, words, phrases, and sentences. One's delay or weakness will result in the other's delay or weakness.

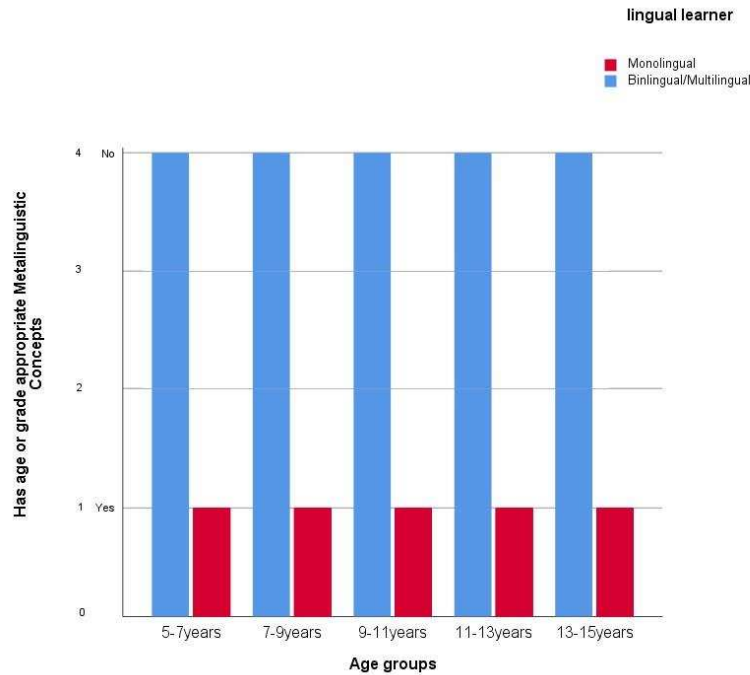
It is important to keep in mind that Bilingual learners require their own time span to acquire appropriate grade levels.

Table 1. Cross Tabulation of Lingual Learners on Age Groups having presence & absence of appropriate Phonological Awareness

Has age or grade appropriate Phonological Awareness			Lingual learner	
Age Groups			Monolingual	Bilingual/Multilingual
5-7 years	Count	No	0	4
		Yes	1	0
7-9 years	Count	No	0	4
		Yes	1	0
9-11 years	Count	No	0	4
		Yes	1	0
11-13 years	Count	No	0	4
		Yes	1	0
13-15 years	Count	No	0	4
		Yes	1	0

According to Table 1, all learners have been classified into five distinct age groups. Four learners in each group are bilingual or multilingual, whereas one is entirely monolingual, i.e., English. After evaluating them, it was found that bilingual/multilingual learners have a significant influence on language and literacy development than monolingual learners. Monolingual had appropriate phonological awareness for his or her age or grade.

Clustered Bar of Has age or grade appropriate Metalinguistic Concepts by Age groups by lingual learner



Graph 1. Clustered Bar Chart of Lingual Learners on Age Groups having presence & absence of appropriate Metalinguistic Concepts

Bilingual or multilingual learners, also struggled with metalinguistic concepts. This implies that a delay in phonological awareness resulted in delays in the other traits, as they are all interdependent. The sequence will begin with the phoneme and move through the morpheme, words, phrases, and sentences. A component's delay or weakness will result in the delay or weakness of all other components.

On the horizontal axis Graph 1 represented a Clustered Bar Chart of Lingual Learners who were monolingual, bilingual, or multilingual and who possessed or lacked adequate and appropriate metalinguistic ideas across various age groups on vertical axis.

Table 2. Cross Tabulation of Lingual Learners on Age Groups having presence & absence of appropriate Reading Skills

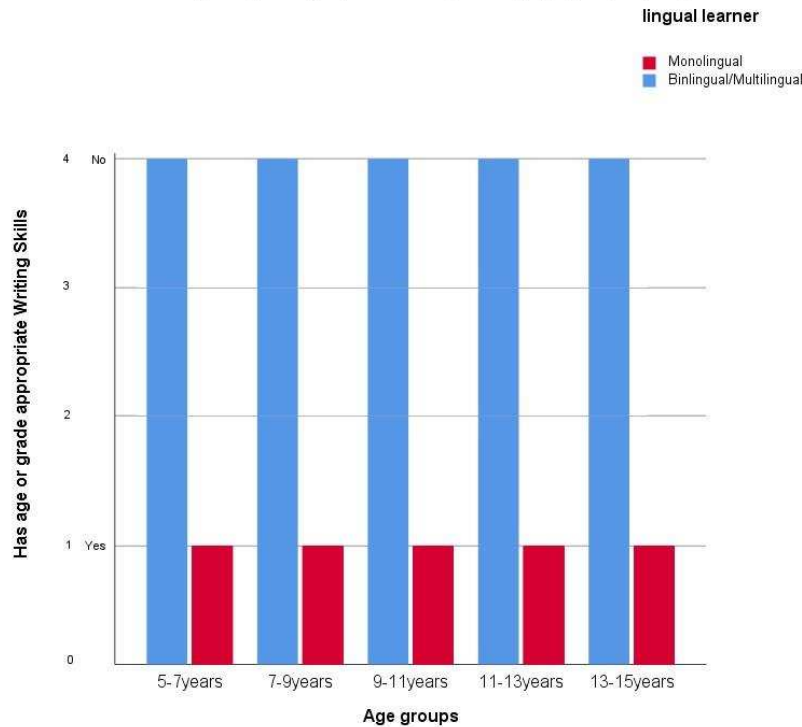
Has age or grade appropriate Reading Skills		Lingual learner	
Age Groups		Monolingual	Bilingual/Multilingual
5-7 years	No	0	4
	Count Yes	1	0
7-9 years	No	0	4
	Count Yes	1	0

9-11 years	Count	No	0	4
		Yes	1	0
11-13 years	Count	No	0	4
		Yes	1	0
13-15 years	Count	No	0	4
		Yes	1	0

After statistical analysis, it became evident that if the bilingual / multilingual learner struggles with language comprehension and development, he or she would exhibit significant challenges and limitations in the areas of reading, comprehension, and writing ideas on papers. This results in the development of specific learning disorders such as dyslexia, dysgraphia, and dyscalculia.

The Clustered Bar Chart below illustrates Lingual Learners (that may be monolingual, bilingual or multilinguals) by different Age Groups with and without adequate writing skills as well as graphical depiction of what has been explained above.

Clustered Bar of Has age or grade appropriate Writing Skills by Age groups by lingual learner



Graph 2. Clustered Bar Chart of Lingual Learners on Age Groups having presence & absence of appropriate Writing Skills

Discussion

This study focused on the impact of bilingualism on Language and Literacy Development and on the comparison of the characteristics of language development and literacy growth of Bilingual learners with the Monolinguals.

Children become bilingual/ multilingual for a variety of reasons, according to previous researches: immigration to a new country; extended relatives who speak a traditional language; schooling in a language other than the home language; or temporary residency in another country. These situations are frequently complicated by social and demographic variables, which might influence a child's level of cognitive development. The child's literacy environment, the nature and extent of the child's proficiency in the first (or home) language, the purposes for which the second language is used, the degree and nature of community support for that language, and the extent to which the child identifies with the group that speaks that language are all factors to consider. While filling the questionnaire, researcher observed that the above mentioned reasons or factors were existing in the history of learners. Therefore, we can conclude that Environment play a strong role in developing language.

Furthermore, Vygotsky, Peal, & Lambert, (1962) anticipated that a child learning two languages would be in a different position than a child learning only one, and that language's role as a medium for thinking and teaching would enrich and assist the child's growth. This study also explains the same fact that the languages play an important role in showing the capabilities of learner to understand and express themselves. Overall, the development of learners' personality depends upon their language(s).

In the study, the language development is divided into different variables which are Metalinguistic Concepts, Word Awareness, Syntactic Awareness, and Phonological Awareness. While Reading and Writing skills are the variables of Literacy growth. The findings of this study, on the other hand, reveal that bilinguals have some difficulties in a single language, which is English. However, their overall vocabulary in two or more languages is greater than that of monolinguals. It is essential to remember that bilingual learners need their own time to reach suitable grade levels.

Describing variables further starting with Metalinguistic Concepts. Metalinguistic understanding, as proposed by Tunmer, & Myhill, (1984), is the process by which bilingualism impacts all types of cognition. They claimed that being completely bilingual increased metalinguistic skills, which helped with reading comprehension and academic performances. However, in the present study, the monolingual learners were at age / grade appropriate level while bilinguals and multilinguals showed delay in acquiring age / grade appropriate level.

Moving towards Word Awareness, it is likely that the meaning of a word is irrelevant for the development of reading abilities until children are required to acquire an alphabetic writing style, according to research by Feng et al. (1999) and Hoosain (1992). Furthermore, since various languages have distinct vocabulary meanings, children who speak two languages may have different views of how speech is broken down into words.

Galambos, & Hakuta, (1988) investigated about how monolingual and bilingual children performed on two different types of metalinguistic tasks. The first was a frequent exercise in which learners were asked to analyze sentence syntactic structure and then correct it. The students had to detect ambiguity in phrases before paraphrasing the various meanings in the second activity. In the syntactic challenge, bilingual children consistently outperformed monolinguals, while a bilingual advantage in the complexity task was only detected in the second training session, when the children were older. These results suggest that language competency

and other skill variables play a role in limiting the developmental effects of bilingualism. The gain in grammaticality assessment at both ages, as well as the separation of that capacity from another metalinguistic skill, both contribute to a more complete account of bilingualism's metalinguistic influence on these children's development. We can conclude that bilingual/multilinguals can acquire appropriate levels of different languages but in different time frame.

For phonological awareness, Eviatar, & Ibrahim, (2000) compared two categories of bilingual individuals to monolinguals, but they performed it in a novel method that went beyond the standard concept of bilingualism. Because the grammar of written Arabic differs substantially from that of spoken Arabic, children who learn to read and write Arabic in school are essentially learning a new language. Based on this contrast, they classified Arabic speakers in Israel who attended school in Arabic as bilingual. It would be surprising, though, if these Israeli youngsters grew up with no understanding of Hebrew. As a consequence, individuals may be multilingual, as the researchers assume, but their bilingualism may not be explained in the way the researchers suggest. Monolingual Hebrew speakers, bilingual Hebrew and Russian speakers, and Arabic speakers learning written Arabic at school were all included in the study. While bilingual children scored worse than monolinguals on a vocabulary test, they outperformed monolinguals on phonological comprehension tests. They included initial phoneme detection, final phoneme detection, and phoneme-syllable elimination. The differences identified in kindergarten, like those seen in previous phonological comprehension trials, disappeared by first grade.

When it comes to Literacy (includes reading and writing skills) growth, Kindergarten learners were instructed to share stories and explain a series of incidents, such as what happens when magnets are measured with various materials, by Peets, & Bialystok, (2009). Both tests were conducted in English, and the bilingual children performed worse than the monolingual children on all formal English competency assessments. All discourse steps were similar for both groups of children, and the same grammar and morphological constructs that were difficult for bilingual children on standardized tests were used as reliably and correctly by bilingual children in oral discourse experiments as they were by monolingual children. Bilingual students may be as competent as monolingual peers in academic uses of language to express knowledge, despite performing poorly on conventional vocabulary and grammar exams. Literacy requires these skills in oral communication.

Conclusion

Review of literature and experience has suggested the following conclusions to the study that there are significant features which differentiate monolinguals from bilingual/ multilingual i.e.: Monolingual has more vocabulary of specific language than bilinguals. However, their overall vocabulary in two or more languages is greater than that of monolinguals. Bilingual/multilinguals can acquire appropriate levels of different languages but in different time frame. Every learner is different and unique from each other. No one is less than other. Overall, the development of learners' personality depends upon their language(s). It will help in efficient patient management. Furthermore, intervention on time or in early stages may guide learner to attain age or grade levels of language development and literacy growth in adequate time without showing any failure in their academic achievements. Speech and language pathologist and other medical professionals, would have a better understanding and efficacy in the management of underlying problem(s).

Limitations

Following were some limitations while doing this study. One of the limitation of this study includes that there is no formal norm referred native language assessment tool available, so it was compared with the traditionally used developmental assessment battery. Besides, no control group was formed that could restrict the results. Finally, it is important to mention that there is a problem in communication between students and informants due to language barrier. Therefore, it was too difficult to gather data.

Recommendations

Research is a difficult task to perform and following recommendations are for followers who will do research for this study purpose. All the work must be done with extreme care. The questionnaire should include the question related to your research work. Data should be collected fairly and honestly. Information about research work must be collected from different media. There should be a thorough study of literature concerning research topic before working on it. The patients and their attendants should be treated with love and care while collecting data. It is important to include children from several special need centers. Finally, the outcome should be analyzed on psychoeducational assessment.

Acknowledgements

- I would like to articulate my heartily thanks to my **beloved Husband and whole family** who worn-out their energies on grooming me.
- I feel immense pleasure in expressing my gratitude to my supervisor, **Rebeca Munguia**, for sharing her vast knowledge, extending prudent advice, sympathetic attitude, moral support, inspiring comments and strong motivation to address the problems encountered during Master's research work.
- With great contentment, I acknowledge the positive reception, unconditional friendship and strong support of my colleague "**Hafsa Fiaz**".

References

- Ben - Zeev, S. (1977). The influence of bilingualism on cognitive strategy and cognitive development. *Child Development*, 48, 1009 – 18.
- Bialystok, E. (1986a). Children's concept of word. *Journal of Psycholinguistic Research*, 15, 13–32.
- Bialystok, E. (1986b). Factors in the growth of linguistic awareness. *Child Development*, 57, 498–510.
- Bialystok, E. (1988). Levels of bilingualism and levels of linguistic awareness. *Developmental Psychology*, 24, 560–7.
- Bialystok, E. and Majumder, S. (1998). The relationship between bilingualism and the development of cognitive processes in problem-solving. *Applied Psycholinguistics*, 19, 69–85.
- Bialystok, E. (2001). *Bilingualism in Development: Language, Literacy, and Cognition*. New York: Cambridge University Press.
- Bialystok, E., Majumder, S., and Martin, M. M. (2003). Developing phonological awareness: Is there a bilingual advantage? *Applied Psycholinguistics*, 24, 27–44.
- Bialystok, E., McBride-Chang, C., and Luk, G. (2005). Bilingualism, language proficiency, and learning to read in two writing systems. *Journal of Educational Psychology*, 97, 580–90.
- Bialystok, E., Luk, G., and Kwan, E. (2005). Bilingualism, biliteracy, and learning to read: Interactions among languages and writing systems. *Scientific Studies of Reading*, 9, 43–61.
- Bialystok, E. (2006). The Impact of Bilingualism on Language and Literacy Development. *The Handbook of Bilingualism*, 577-601.
- Bialystok, E. and Luk, G. (2007). The universality of symbolic representation for reading in Asian and alphabetic languages. *Bilingualism: Language and Cognition*, 10, 121–9.

- Bialystok, E., Luk, G., Peets, K. F., and Yang, S. (2010). Receptive vocabulary differences in monolingual and bilingual children. *Bilingualism: Language and Cognition*, 13, 525–31.
- Bialystok, E. and Ryan, E. B. (1985). A metacognitive framework for the development of first and second language skills. In D. L. Forrest-Pressley, G. E. Mackinnon and T. G. Waller (eds.), *Meta-Cognition, Cognition, and Human Performance*. 207–52. New York: Academic Press.
- Bialystok, E. (2012). The Impact of Bilingualism on Language and Literacy Development. *The Handbook of Bilingualism and Multilingualism*, 624-648.
- Bialystok, E. (2013). The Impact of Bilingualism on Language and Literacy Development. *The handbook of bilingualism and multilingualism*, 624.
- Bruck, M. and Genesee, F. (1995). Phonological awareness in young second language learners. *Journal of Child Language*, 22, 307–24.
- Chomsky, N. (1957). *Fundamentals of Language*.
- Campbell, R., & Sais, E. (1995). Accelerated metalinguistic (phonological) awareness in bilingual children. *British Journal of Developmental Psychology*, 13(1), 61-68.
- Caravolas, M. and Bruck, M. (1993). The effect of oral and written language input on children's phonological awareness: A cross-linguistic study. *Journal of Experimental Child Psychology*, 55, 1–30.
- Carlisle, J. F., Beeman, M., Davis, L. H., & Spharim, G. (1999). Relationship of metalinguistic capabilities and reading achievement for children who are becoming bilingual. *Applied Psycholinguistics*, 20(4), 459-478.
- Cheung, H., Chen, H.-C., Lai, C. Y., Wong, O. C., and Hills, M. (2001). The development of phonological awareness: Effects of spoken language experience and orthography. *Cognition*, 81, 227–41.
- Clark, E. V. (1978). Awareness of language: Some evidence from what children say and do. In A. Sinclair, R. J. Jarvella, and W. J. M. Levelt (eds.), *The Child's Conception of Language*. Berlin: Springer-Verlag.
- Cromdal, J. (1999). Childhood bilingualism and metalinguistic skills: Analysis and control in young Swedish-English bilinguals. *Applied Psycholinguistics*, 20, 1–20.
- Cummins, J. (1978). Bilingualism and the development of metalinguistic awareness. *Journal of Cross-cultural Psychology*, 9(2), 131-149.
- Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of educational research*, 49(2), 222-251.
- Davidson, R. G., Kline, S. B., & Snow, C. E. (1986). Definitions and definite noun phrases: Indicators of children's decontextualized language skills. *Journal of Research in Childhood Education*, 1(1), 37-48.
- De Villiers, J. G. and de Villiers, P. A. (1972). Early judgments of semantic and syntactic acceptability by children. *Journal of Psycholinguistic Research* (1), 299–310.
- Dickinson, D. K., De Temple, J. M., Hirschler, J. A., and Smith, M. (1992). Book reading with preschoolers: Construction of text at home and school. *Reading Research Quarterly*, 7, 323–46.
- Duncan, S. E., & De Avila, E. A. (1979). Bilingualism and cognition: Some recent findings. *NABE Journal*, 4(1), 15-50.

- Durgunog˘ lu, A. Y., Nagy, W. E., and Hancin- Bhatt, B. J. (1993). Cross-language transfer of phonological awareness. *Journal of Educational Psychology*, 85, 453–65.
- Durguno˘ lu A. Y., & Verhoeven, L. (1998). Multilingualism and literacy development across different cultures. Durguno˘ lu, AY/Verhoeven, L. (Hgg.): *Literacy Development in a Multilingual Context*. London: Erlbaum, S, 289, 298.
- Edwards, D., & Christophersen, H. (1988). Bilingualism, literacy and meta-linguistic awareness in preschool children. *British Journal of Developmental Psychology*, 6(3), 235-244.
- Eviatar, Z., & Ibrahim, R. (2000). Bilingual is as bilingual does: Metalinguistic abilities of Arabic-speaking children. *Applied Psycholinguistics*, 21(4), 451-471.
- Feldman, C., & Shen, M. (1971). Some language-related cognitive advantages of bilingual five-year-olds. *The Journal of Genetic Psychology*, 118(2), 235-244.
- Feng, G., Chen, S. Y., Miller, K. F., Shu, H, and Zhang, H.C. (1999, November). Away with Words: Language Structure and the Development of Reading in Chinese and English. Paper presented at the annual meeting of the Psychonomic Society, Los Angeles, CA.
- Ferreiro, E. (1984). The underlying logic of literacy development. *Awakening to literacy*, 154-173.
- Galambos, S. J., & Goldin-Meadow, S. (1990). The effects of learning two languages on levels of metalinguistic awareness. *Cognition*, 34(1), 1-56.
- Galambos, S. J. and Hakuta, K. (1988). Subject- specific and task specific characteristics of metalinguistic awareness in bilingual children. *Applied Psycholinguistics*, 9, 141–62.
- Gathercole, V. C. M., Montes, C., Pérez-Leroux, A. T., & Glass, W. R. (1997). That-trace effects in Spanish- and English-speaking monolinguals and bilinguals.
- Geva, E. and Wade-Woolley, L. (1998). Component processes in becoming English- Hebrew biliterate. In A. Y. Durgunog˘ lu, and L. Verhoeven (eds.), *Literacy Development in a Multilingual Context: Cross-Cultural Perspectives*, 85–110. Mahwah, NJ: Erlbaum.
- Geva, E., Wade-Woolley, L., and Shany, M. (1997). Development of reading efficiency in first and second language. *Scientific Studies of Reading*, 1, 119–44.
- Geva, E., & Siegel, L. S. (2000). Orthographic and cognitive factors in the concurrent development of basic reading skills in two languages. *Reading and writing*, 12(1), 1-30.
- Goswami, U. (1999). The relationship between phonological awareness and orthographic representation in different orthographies. In M. Harris and G. Hatano (eds.), *Learning to Read and Write: A Cross-Linguistic Perspective*, 134–56. Cambridge: Cambridge University Press.
- Hakuta, K. (1987). Degree of Bilingualism and Cognitive Ability in Mainland Puerto Rican Children. *Child Development*, 58, 1372-1388.
- Herman, J. (1996). *Grenouille, where are you?: cross-linguistic transfer in bilingual kindergartners learning to read* (Doctoral dissertation, Harvard Graduate School of Education).
- Henriques, M. H., & Brilha, J. B. (2017). UNESCO Global Geoparks: A strategy towards global understanding and sustainability.
- Ho, C. S. and Bryant, P. (1997). Learning to read Chinese beyond the logographic phase. *Reading Research Quarterly*, 32, 276–89.

- Hoosain, R. (1992). Psychological reality of the word in Chinese. In *Advances in psychology* (Vol. 90, pp. 111-130). North-Holland.
- Huang, H. S. and Hanley, J. R. (1994). Phonological awareness and visual skills in learning to read Chinese and English. *Cognition*, 54, 73–98.
- Ianco-Worrall, A. D. (1972). Bilingualism and cognitive development. *Child Development*, 1390-1400.
- Jarvis, L. H., Danks, J. H., & Merriman, W. E. (1995). The effect of bilingualism on cognitive ability: A test of the level of bilingualism hypothesis. *Applied Psycholinguistics*, 16(3), 293-308.
- Johnson, J. (1989). Factors related to cross-language transfer and metaphor interpretation in bilingual children. *Applied Psycholinguistics*, 10(2), 157-177.
- Johnson, J. (1991). Constructive processes in bilingualism and their cognitive growth effects.
- Wu, A. (1994). *The Spell-Out Parameters: a minimalist approach to syntax* (Doctoral dissertation, University of California, Los Angeles).
- Landsmann, L. T., & Karmiloff-Smith, A. (1992). Children's understanding of notations as domains of knowledge versus referential-communicative tools. *Cognitive Development*, 7(3), 287-300.
- Leopold, W. F. (1953). Patterning in children's language learning. *Language Learning*, 5(1-2), 1-13.
- Leopold, W. F. (1961). Patterning in children's language learning. In S. Sapporta (ed.), *Psycholinguistics*. New York: Holt, Rinehart and Winston.
- Luk, G., & Bialystok, E. (2008). Common and distinct cognitive bases for reading in English–Cantonese bilinguals. *Applied Psycholinguistics*, 29(2), 269-289.
- Martin-Rhee, M. M., & Bialystok, E. (2008). The development of two types of inhibitory control in monolingual and bilingual children. *Bilingualism: Language and Cognition*, 11(1), 81-93.
- Montgomery, D. E., & Koeltzow, T. E. (2010). A review of the day–night task: The Stroop paradigm and interference control in young children. *Developmental Review*, 30(3), 308-330.
- Moreno, S., Bialystok, E., Wodniecka, Z., and Alain, C. (2010). Conflict resolution in sentence processing by bilinguals. *Journal of Neurolinguistics*, 23, 564–79.
- Muter, V. and Diethelm, K. (2001). The contribution of phonological skills and letter knowledge to early reading development in a multilingual population. *Language Learning*, 51, 187–219.
- Peets, K. and Bialystok, E. (2009). Dissociations between Academic Discourse and Language *Proficiency* among Bilingual Kindergarteners. Poster presented at the biennial meeting of the Society for Research in Child Development, April, 2009, Denver, CO.
- Piaget, J. (1929). *The Child's Conception of the World*. New York: Harcourt, Brace, Javanovich.
- Purcell-Gates, V. (1988). Lexical and syntactic knowledge of written narrative held by well-read-to kindergartners and second graders. *Research in the Teaching of English*, 128-160.
- Peal, E. and Lambert, W. (1962). The relation of bilingualism to intelligence. *Psychological Monographs*, 76, (Whole No. 546): 1–23.
- Reynolds, A. G. (2014). The cognitive consequences of bilingualism. In *Bilingualism, multiculturalism, and second language learning* (pp. 165-202). Psychology Press.

- Reynolds, A. G. (Ed.). (2014). Bilingualism, multiculturalism, and second language learning: The McGill conference in honour of Wallace E. Lambert. Psychology Press.
- Ricciardelli, L. A. (1992). Bilingualism and cognitive development in relation to threshold theory. *Journal of Psycholinguistic Research*, 21(4), 301-316.
- Rickard Liow, S. J. and Poon, K. K. L. (1998). Phonological awareness in multilingual Chinese children. *Applied Psycholinguistics*, 19, 339-62.
- Rosenblum, T. and Pinker, S. A. (1983). Word magic revisited: Monolingual and bilingual children's understanding of the word-object relationship. *Child Development*, 54, 773-80.
- Rubin, H. and Turner, A. (1989). Linguistic awareness skills in grade one children in a French immersion setting. *Reading and Writing: An Interdisciplinary Journal*, 1, 73-86.
- Snow, C. E., Cancino, H., Gonzalez, P., and Shriberg, E. (1989). Giving formal definitions: An oral language correlate of school literacy. In D. Bloome (ed.), *Classrooms and Literacy*. 233-49. Norwood, NJ: Ablex.
- Snow, C. E. (1990). Rationales for native language instruction. *Bilingual Education: Issues and Strategies*, 60-74.
- Snow, C. E., & Tabors, P. O. (1993). Language skills that relate to literacy development. *Yearbook in Early Childhood Education*, 4, 1-20.
- Tunmer, W. E., & Myhill, M. E. (1984). Metalinguistic awareness and bilingualism. In *Metalinguistic awareness in children* (pp. 169-187). Springer, Berlin, Heidelberg.
- Vygotsky, L. S. (1962). *Thought and language*. MIT press.
- Wells, G. (1985). Preschool literacy-related activities and success in school. *Literacy, language, and learning: The nature and consequences of reading and writing*, 229-255.
- Wu, H. F., De Temple, J. M., Herman, J. A., & Snow, C. E. (1994). "L'animal qui fait oink! oink!": Bilingual children's oral and written picture descriptions in English and French under varying instructions. *Discourse Processes*, 18(2), 141-164.
- Yelland, G. W., Pollard, J., & Mercuri, A. (1993). The metalinguistic benefits of limited contact with a second language. *Applied Psycholinguistics*, 14(4), 423-444.

Appendix A. Questionnaire for case collection

Name _____ Age _____
 Gender _____ Informant _____

L1 = Home Language, First dominant Language

L2= Additional Language

1. Which language does your child hear or know first time? _____

2. Which Language do you speak with each other? _____
3. Which language do you speak with your siblings? _____
4. Which Language do the siblings use with each other? _____
5. Do you have nanny for your child? _____
6. If yes, then:
7. At which age your child get nanny? _____
8. What is the language of your nanny? _____
9. If English, then how long is she being using/ expose to English? _____
10. In which language does your child show more understanding? _____
11. What first words does your child use? _____
12. In which language? _____
13. Which language is use in school academically? _____

L1= _____

L2= _____

Appendix B. Consent Form

Description of the Research and Your Child's Participation

Your child is invited to participate in a research study conducted by Madiha Ishtiaq Atif Rehman student of Master in Paediatric Speech and Language Therapy, SAERA. The purpose of this research is to "Determine the impact of bilingualism on Language and Literacy Development and Compare the characteristics of language development and literacy growth of Bilingual learners with the Monolinguals."

Risks and Discomforts

There is no known risk associate with this research.

Potential Benefits

Your child may benefit in terms of his language development, social communication abilities and literacy growth.

Protection of Confidentiality

We will protect your privacy. Your child's identity will not be revealed in any publication resulting from this study.

Voluntary Participation

Your child's participation in this research is voluntary. You may choose not to allow him to participate and you may withdraw your consent for your child to participate at any time. You will not be penalized in any way should you decide for your child not to participate or to withdraw from the study.

Contact information

If you have any questions or concerns about this study or any problem arise, please contact Mrs. Madiha Ishtiaq Atif Rehman student of Master in Paediatric Speech and Language Therapy.

Email: madiha.atif2012@outlook.com

Consent

I have read this consent form and have been given the opportunity to ask questions. I give my consent for my child to participate in this study.

Parent's/ Guardian Signature _____ Date: _____